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Report of a Mission organized by
the International Bank for Reconstruction
and Development at the request of
the Government of Syria

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THE ECONOMIC DEVELOPMENT OF *Syria*

PUBLISHED FOR The International Bank for Reconstruction and Development
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p. iii

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PREFACE

121 This is the report of a mission to Syria, organized by the International Bank for Reconstruction and Development at the request of the Government of Syria. The task of the mission was to undertake a general review of Syria's economic potentialities and to submit recommendations designed to assist the government to formulate a long-term development program for increasing Syria's productive resources and raising the standard of living of its people. The recommendations were to concern the approximate rate of public capital expenditure which Syria can appropriately undertake, priorities for such expenditure as among different sectors of the economy and as among types of undertakings within those sectors, measures apart from capital investment for improving and increasing production and raising living standards, and economic, fiscal and administrative policies and measures necessary for the success of the development program.

114 The mission consisted of ten full-time members. The adviser on agricultural production was nominated by the Food and Agriculture Organization of the United Nations; one of the economists is a member of the regular staff of the International Monetary Fund. Five members (the advisers on industry, housing and community planning, water resources and power, and transportation, and the agricultural economist) were recruited by the Bank from outside its staff. The other three members are members of the Bank's regular staff. The mission chief and one of the experts are from the Netherlands; the other mission members are from Switzerland, France, Greece, the United Kingdom and the United States.

The mission arrived in Syria early in February 1954 and remained until the latter part of April. During their stay in Syria, members of the mission travelled through all of the country's nine provinces. The mission reassembled at the Bank's headquarters for the purpose of writing this report.

121 The report is in two parts. Part I, the Main Report, contains the mission's recommendations for the organization and financing of a program of government action extending over five full years. Part II contains a series

[p. vi CONTAINS NO TEXTUAL MATERIAL.]

121 of Annexes consisting of technical notes on Syria's international economic position, public finance, agriculture, irrigation, agricultural institutions, industry, electric power, transportation and communications, and settlements and social services.

800 The President of the Bank transmitted the report to the President of Syria in March 1955. The letter of transmittal noted that since the Executive Directors and management customarily do not review the recommendations of missions in detail, the report as transmitted represented the views of the mission rather than positive recommendations of the Bank. The letter added, however, that the Bank believed that the findings of the report deserved the most careful consideration and discussion.

Similarly, while the other international agencies which participated in the organization of the mission were given an opportunity to comment on the portions of the report of particular interest to them, responsibility for the recommendations of the report is to be regarded as that of the mission alone.

ACKNOWLEDGEMENT

The mission wishes to express its appreciation for the generous cooperation extended to it in all aspects of its work, both by officials of the government and by the many private citizens with whom it had occasion to consult. Among Syrian officials, the mission wishes particularly to acknowledge the assistance of the liaison committee composed of the Secretaries General of the Ministries of National Economy, Finance, Agriculture and Public Works and Communications, under the chairmanship of the Minister of National Economy.

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*EXCHANGE RATES**

457

1 Syrian £ = $0.28 U.S.
1 million £S = $280,000 U.S.
$1.00 U.S. = £S 3.575
1 million $U.S. = £S 3.575 million

* Free market rate, average for 1954, on which mission's calculations are based.

p. 1

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PART I *THE MAIN REPORT*

p. 2

CHAPTER 1 STRUCTURE OF THE SYRIAN ECONOMY AND ITS DEVELOPMENT

Introduction

101 Syria, although an independent country only since 1945, has had a long
178 and chequered history. It has seen many conquerors and witnessed the rise and fall of many civilizations. Since time immemorial it has been the frontier land where rival civilizations penetrating from the East and the West have contended for supremacy. The Sumerians, Chaldeans, Assyrians and Persians came from the East, and the Greeks and Romans from the West. Still later the Eastern Roman Empire of the early Christian era gave way, successively, to the Arabs and the Turks. Even after Turkish rule became firmly established, Syria remained for a long time the place where the caravans from the West and East met and an active trade in goods took place. Although it became basically eastern in its orientation, it was never wholly without contact with the West, and western influence was again reasserted when Turkish rule was terminated after the first World War.

Thus the culture, economy and political system of Syria are a mixture of East and West. The diverse elements have only been partially fused. The East and West co-exist in rather uneasy balance. Modern technology has invaded Syria in the form of factories, mechanized farms and motor cars, but the craftsmen still ply their trade in crowded bazaars, most of the land is still cultivated by time-hallowed methods and under ancient systems of tenure, and camels and donkeys still play a role—although a diminishing one—in transport. Modern commercial banks have by no means displaced the traditional money lenders and the bazaar banks or *sarafs*, and the wholehearted acceptance of western capitalism is still impeded to a small extent by the Moslem aversion to interest as usury. Democratic, parliamentary institutions have been borrowed from the West, but their stability is periodically threatened by divisive forces and the tradition of autocratic rule inherited from the past. Syrian nationalism, born as a rebellion against foreign domination, is now engaged in the

101 challenging task of fusing the positive elements of both its eastern and
178 its western heritage into a cohesive whole.

Population and Land

161 According to official estimates, Syria at the end of 1953 had a popula-
162 tion of about 3.65 million, including some 150,000 Bedouins who lead a nomadic or semi-nomadic existence. Although demographic statistics are far from adequate, it appears probable that the population has been growing at an annual rate of somewhere between 2% and 3% during the last decade. Most of the population is rural:[1] about 60% live in villages and towns of less than 10,000 inhabitants, and each of the two largest cities—Damascus, the capital, and Aleppo, the commercial center of the country—has a population close to 400,000. About 86% of the population are Moslem or belong to offshoots of the Moslem religion, and nearly all of the balance are adherents of a considerable number of Christian denominations.

161 As a country with an area of 181,337 square kilometers (72,234 square
311 miles), about three-fourths the size of the United Kingdom, Syria cannot be said to be densely populated. While less than a third of the area is cultivable, the proportion of the population to the land already under cultivation compares favorably with that of other countries in the Near and Middle East. In Syria there is one hectare[2] of cultivated land per inhabitant, or about 10% more than in Turkey and Iran, twice as much as in Greece and Iraq and eight to nine times as much as in Egypt.

311 There is still plenty of land available in Syria but water severely limits
133 its utilization. The country lies to the leeward of mountain ranges in the west and north which intercept much of the rainfall. Except for the coastal region of Latakia province, Syria is largely cut off from the rain-bearing winds of the Mediterranean by mountains, the Djebel Ansariya (Alaouit mountains) in Latakia, and, farther south, after the intervening Tripoli-Homs gap, by the twin ranges of the Lebanon and Anti-Lebanon which in turn give way to the Hermon range. Thus the area which can support rain-fed cultivation is confined to a rather narrow belt extending roughly like a crescent from the Hauran in the south northward to Aleppo and then eastward along the Turkish frontier. Fortunately for Syria, its

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[1] See Annex C, p. 292.

[2] A hectare = 2.471 acres.

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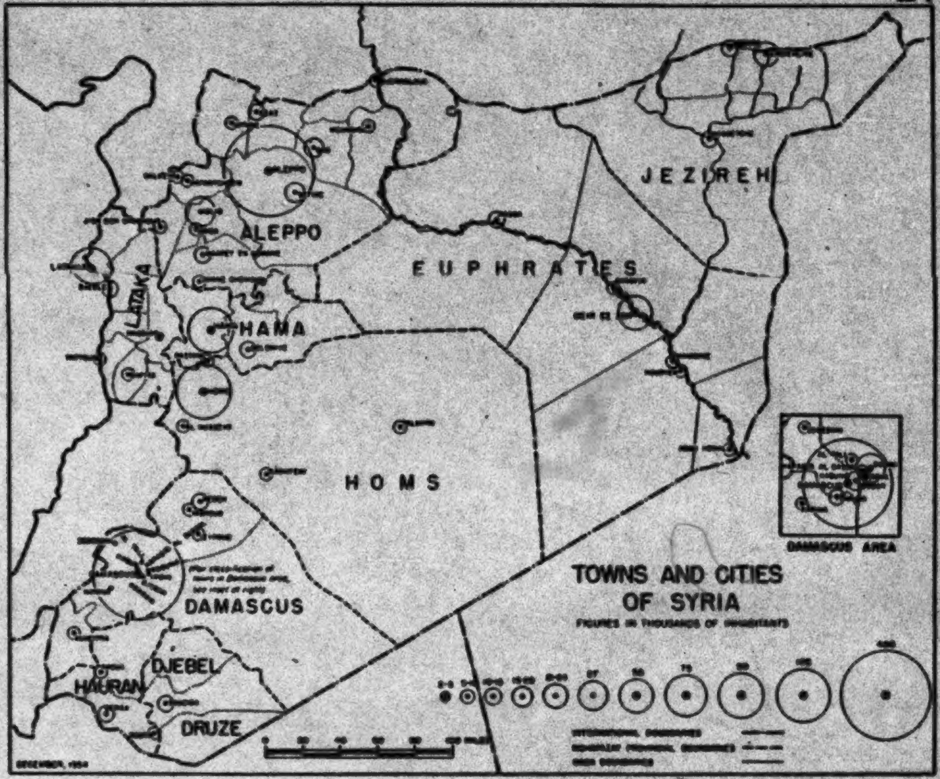
p. 5


MAP 2
JEZIREH
EUPHRATES
ALEPPO
LATAKIA
HAMA
HOMS
DAMASCUS
HAURAN
DJEBEL
DRUZE
DAMASCUS AREA
0 20 40 60 80 100 MILES
DECEMBER, 1954

TOWNS AND CITIES OF SYRIA

FIGURES IN THOUSANDS OF INHABITANTS

311 rainfall is supplemented by the water brought down from the mountains
133 by its rivers. The principal of these is the Euphrates which has its headwaters in Turkey and flows in a generally southeasterly direction across Syria into Iraq. Together with its most important tributary, the Khabour, which also rises in Turkey, it accounts for 90% of the total annual flow of all Syrian rivers. In the west the largest river is the Orontes which is fed by springs from the Lebanon and Anti-Lebanon ranges and flows northward through the marshy area known as the Ghab into Turkey. Farther south the Barada river, rising in the Anti-Lebanon, supplies life-giving water to the fertile Ghouta oasis around Damascus. In the extreme south the Yarmuk river flows along the Jordanian frontier into the Jordan river. Although the flow of these rivers is highly seasonal, it is on the effective utilization of their waters that much of the future development of Syria's agriculture depends.

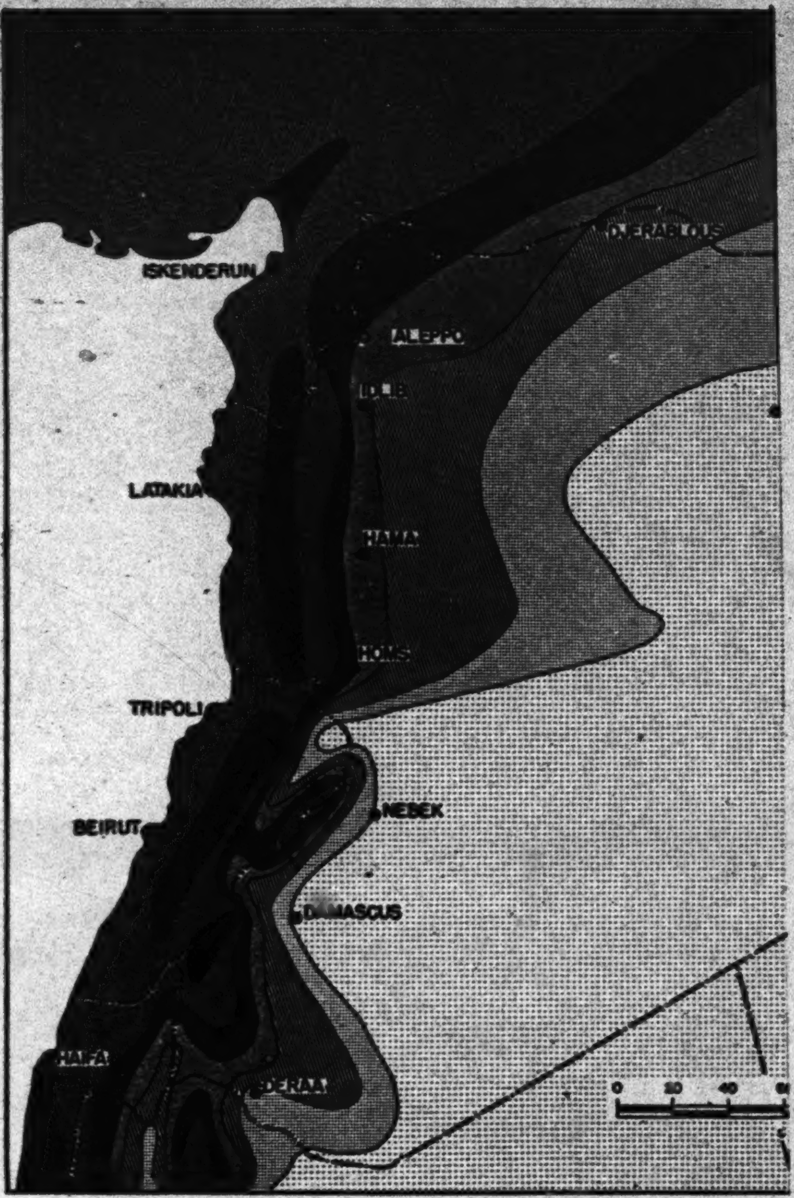
Principal Regions

631 Administratively Syria is divided into nine *mohafazats* or provinces, each in charge of a *mohafez* or governor; the province is in turn divided into *qadas* or counties headed by a *kaimakam;* and the county is further subdivided into *nahiyes* or townships in charge of a *mudir*.

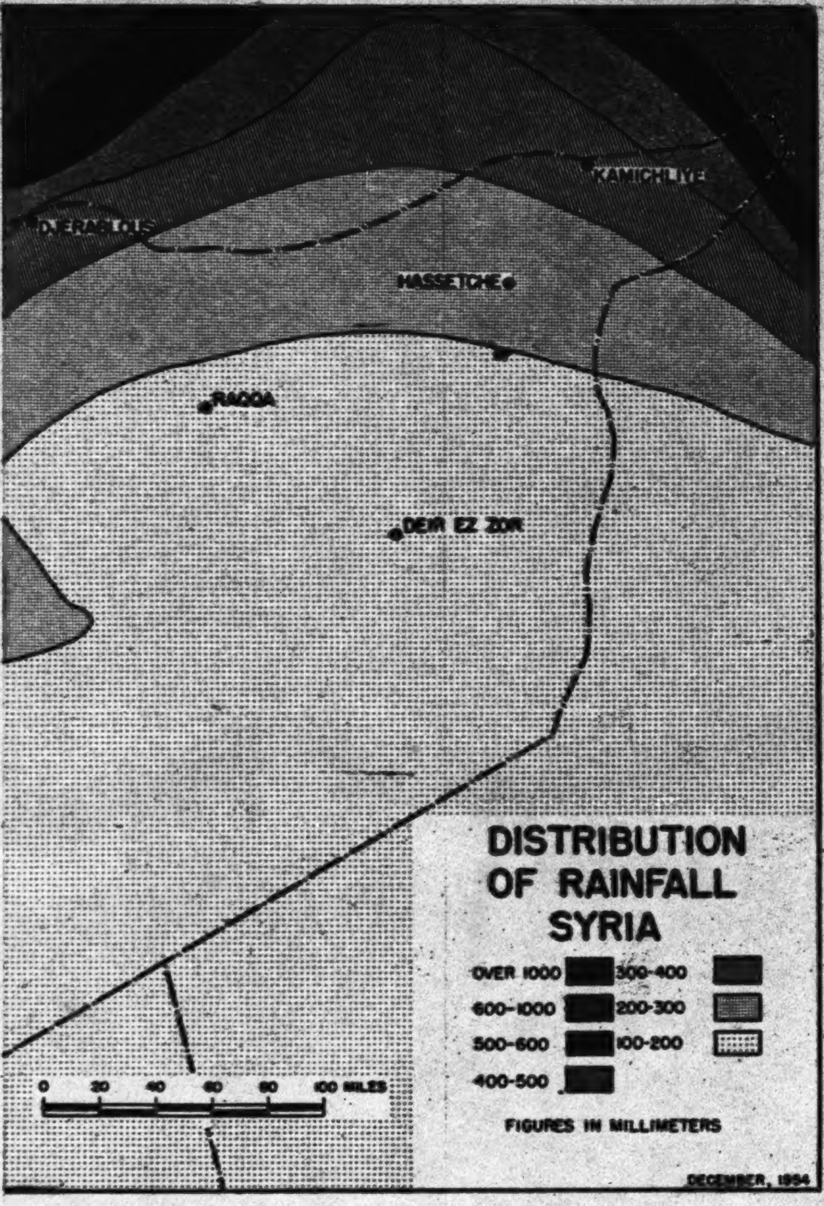
241 Of greater significance, however, are the principal economic regions.
438 Farthest south are the adjoining regions of the Hauran and Djebel Druze.
311 The Hauran plain, an area of rather high but apparently declining fertility, has long been known as a granary, even in Roman times. Its principal crop is wheat, but barley, maize, sorghum and pulses are also important. To the east rises the Djebel Druze, a basaltic dome, where the Druzes, a proud and independent people, eke a bare living from the pockets of fertile soil in their mountains. Here the pressure of population on the land is acute. Agricultural holdings in the Hauran and Djebel Druze are predominantly small. There is little irrigation, and annual rainfall, averaging less than 12 inches, is barely adequate for dry farming. Sharp fluctuations in rainfall frequently make farming precarious. One of the principal problems of this region is the scant supply of underground water even for drinking.

To the northwest of the Hauran lies the higher, rolling Julani plateau stretching toward the Hermon range. This stony region is suitable only for grazing and, to some extent, for orchards. To the north a narrow band

182


ISKENDERUN
DJERABLOUS
ALEPPO
IDLIB
LATAKIA
HAMA
HOMS
TRIPOLI
NEBEK
BEIRUT
DAMASCUS
HAIFA
DERAA
0
20
40

[FOLLOWING P. 6 (A)]


KAMICHLIYE
DJERABLOUS
HASSETCHE
RAQQA
DEIR EZ ZOR
DISTRIBUTION OF RAINFALL SYRIA
OVER 1000
600-1000
500-600
400-500
300-400
200-300
100-200
FIGURES IN MILLIMETERS
0 20 40 60 80 100 MILES
DECEMBER, 1954

[FOLLOWING P. 6 (B)]

241 of cultivation leads to Damascus where semi-desert conditions prevail and
438 rainfall is generally inadequate for dry farming. Thanks to the waters of
911 the Barada river, however, Damascus lies in a fertile oasis, known as the Ghouta. It is pre-eminently an area of orchards and vineyards yielding olives, fruit and nuts. Vegetables, hemp and, more recently, sugar beets are also important crops and extensive dairying is carried on. Damascus, linked with the nearby Lebanese port of Beirut by road and narrow-gauge rail, is one of Syria's two leading industrial centers, the other being Aleppo. Aside from the textile factories which constitute the principal industry, Damascus has plants for the production of cement, glass, vegetable oils, soap, leather and boots and the canning of foodstuffs.

North-northeast of Damascus up to the plains of Homs the country is for the most part rugged and barren, with occasional oases. From Homs to Aleppo stretches an extensive plain which is, along with the Jezireh, the most important agricultural area in Syria. Rainfall is fairly adequate, ranging from an annual average of around 600 mm. (23.6 inches) at Homs to a little less than 400 mm. (15.7 inches) at Hama and Aleppo. The region is the site of the largest completed government irrigation scheme, the Homs-Hama irrigation network, fed from Homs lake; extensive areas are also irrigated by wells, river pumps and water wheels. Northwest of Hama lies the large marshy area known as the Ghab into which the Orontes river pours its water and which the government is just beginning to reclaim. The Homs-Hama-Aleppo area has become the center of cotton and sugar beet cultivation, and it produces roughly one-third of the country's wheat and almost one-half of its barley. West of Aleppo extensive orchards and vineyards produce olives, fruits and nuts. The landholdings of the area are generally large and for the most part cultivated by sharecroppers, who earn a bare living. Around Aleppo mechanized agriculture is developing on some scale.

Aleppo, the principal grain market and commercial center of the country, has also developed considerable industry, featuring cotton ginning and textiles, vegetable oil extraction and soap making, and cement. Homs, with its new sugar factory, a modern textile dyeing plant, several flour mills and a large number of small weaving enterprises, has also achieved some industrial importance.

West of Homs and Hama lies the province of Latakia, facing the Mediterranean. It receives the highest rainfall—up to 1,000 mm. per year—and has a subtropical climate. Its rather narrow coastal plain boasts a

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311

diversified agriculture yielding tobacco, cotton, legumes, melons, olives and some citrus as well as winter cereals. Its principal city, Latakia, is a rapidly growing port serving as an outlet for the large agricultural output of northern Syria. The coastal plains and the mountains of the province are the country's most densely populated areas.

East of Aleppo lie two distinct agricultural regions, one the belt of rain-fed cultivation stretching along the Turkish frontier and comprising principally the province of the Jezireh, the other, the irrigated Euphrates valley. The Euphrates flows in a southeasterly direction through an arid region but the water taken from the river by hundreds of pumps makes possible extensive cultivation of cereals in the winter and cotton and other crops in the summer. Cultivation is principally by sharecroppers. Deir ez Zor is the largest city in the Euphrates valley. The Jezireh in northeastern Syria has now become the country's principal granary. Once the home of roaming, warlike Bedouins, it was pacified and thrown open to settled agriculture only during the last two decades. Beginning in the second World War, cultivation was rapidly expanded until now the Jezireh produces almost half the country's wheat and a considerable amount of barley as well. Dry farming predominates, with cultivation extending from Hassetche, the capital of the province, where rainfall is marginal, northward to the Turkish border where rainfall is heavy and the region's principal commercial center, the bustling town of Kamichliye, is located. In the valleys of the Khabour and Jagh-Jagh rivers, however, there is some irrigated cultivation, with cotton and rice as the principal crops. In this sparsely settled region, dry farming is carried on in large holdings —in some cases more than 100,000 hectares—and with fleets of tractors and self-propelled combines. The principal problem of the region is transport, for it is served inadequately by a railway running in and out of Turkish territory and by roads and tracks which are impassable for part of the year.

South and southwest of the Euphrates and extending toward Hama, Homs and Damascus lies a large, roughly triangular area, the Syrian desert. This desert or steppe area, although dotted here and there by an oasis, is too arid to support cultivation. Vegetation springs up briefly following the scant winter rains and supports during this time large flocks of sheep and goats tended by Bedouin tribesmen who are also engaged in the breeding of camels. Inadequate water supplies and occasionally severe weather make serious inroads on the flocks from time to time.

Natural Resources

Land and water are undoubtedly the principal natural resources of 135
Syria. Indications do not point to extensive mineral deposits. Some poor 315
lignite but no coal has been found. A subsidiary of the Iraq Petroleum 316
Company carried out extensive prospecting and drilling over a considerable area under a concession granted in 1938. After spending about £ 6 million sterling in exploratory work, it surrendered its concession in August 1951. Although the belief persists in Syria that considerable oil will one day be discovered, there is no evidence to support the supposition. Drilling did reveal the presence of natural gas in eastern Syria, southwest of Hassetche, and also of appreciable quantities of rock salt. In theory this gas, if proved in considerable volume, together with salt, could provide the raw materials for the production of fertilizers and alkalis, but other countries—for example Iraq—may well be more favorably situated with respect to the development of similar resources. The natural gas could also be used as a source of energy but it is unfortunately found at a considerable distance from the potential market in western Syria.

There are important deposits of bitumen or asphalt. One of these, in the province of Latakia, is already being mined, but other and far richer deposits uncovered in the Djebel Bichri, west of Deir ez Zor, are being exploited to a minor extent only by the Ministry of Public Works. The latter deposits are expected to assume considerable importance in the extensive roadbuilding program the government is planning to undertake. Iron ore, chromite and lead and iron pyrites are known to exist, but their presence in commercial quantities is still to be proved. While licenses for prospecting of minerals are being issued, on the basis of existing evidence it seems unlikely that mineral resources exist in sufficient quantities to affect the future of Syria significantly.

Agriculture

Syria is predominantly an agricultural country. Between 65% to 75% 241
of the people derive their living directly from agriculture, and a con- [242]
siderable portion of the balance earn their livelihood by handling or pro- 433
cessing agricultural commodities. Agriculture and animal husbandry together probably account for 45% to 50% of the national income. In agriculture, winter crops are most important because rainfall is concen-

241 trated in the fall and winter seasons. Thus around 70% of the area in
433 crops is usually planted to wheat and barley, and these two cereals con-
tributed £S 59.2 million and £S 70.8 million or approximately 19% of
the total value of Syria's exports in 1952 and 1953. Although a considerable
number of summer crops are grown, including sorghum, maize, rice,
pulses and vegetables, by far the most important of these is cotton. The
latter now rivals wheat as the most valuable crop of the country even
though the 1953 acreage planted to cotton was only 10% of that sown to
[439] wheat. Exports of cotton and cotton seed amounted in 1952 and 1953 to
£S 131.2 million and £S 140.2 million, or 38% and 40% of the value of
all exports. Orchard crops such as olives, nuts, apricots and other fruits
also assume some importance in agricultural production, although they
233 take up less than 10% of the planted area. Animal husbandry, based prin-
439 cipally on sheep and goats, is primarily a pastoral industry without a close
link with settled agriculture. Exports of livestock and livestock products
including hides and skins, samneh (clarified butter), cheese and eggs,
amounted in 1953 to almost £S 48 million or around 13% of the total
value of exports. Live animals alone contributed £S 23 million, although
such exports were offset by imports, primarily from Iraq, to a value of
£S 7.1 million.

241 Much of Syria's agricultural output is consumed on the farm and
433 therefore does not enter the market economy. From the returns of the
agricultural production tax, which is levied only on produce brought to
market, it may be estimated that only around 40% of the production of
wheat, maize and sorghum and less than 30% of the output of lentils is
sold.

Industry

432 During the postwar period industry has steadily forged ahead, although
464 its contribution to national income is probably still only between one-fifth
and one-fourth that of agriculture and animal husbandry. The number
employed in manufacturing is difficult to estimate, since the 1947 census
provided no occupational breakdown, and industrial enterprises required
to register with the government generally understate the number of work-
ers employed. Fragmentary data collected by the mission indicate that
employment in more or less mechanized manufacturing establishments,
many of which are very small, may be between 35,000 and 40,000. If

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handicraft workers and artisans are included, the number engaged in some form of manufacturing may approach or perhaps even exceed 100,000.

[288]

The textile industry, including spinning, weaving, knitting, dyeing and finishing, and the manufacture of garments, is the most developed. It probably employs close to 20,000 people in more or less mechanical establishments and it was able, in 1953, to export goods to a value of about £S 25 million. Among other important industries are flour milling, the extraction of vegetable oils and making of soap, tanning, sugar refining, canning and preserving, and the manufacture of cement, glass, tobacco and matches. The production of utensils, implements, furniture and shoes, although on a considerable scale, is almost completely in the handicraft stage.

Commerce

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Commerce has always been one of the most profitable occupations in Syria. It has furnished much of the capital for the development of industry and even of agriculture. Aleppo and Damascus are the principal commercial centers of the country, the former being the more important. It handles most of Syria's exports, which emanate largely from the northern part of the country, and with the development of the port of Latakia it is also increasing its share of the import trade.

Foreign commerce is quite important in total trade. Over the three-year period 1951-53 the value of imports has averaged close to 30% of probable national income and exports about 22%. Exports have risen rather steadily in total value, and imports somewhat more slowly. Separate foreign trade figures for Syria have been available only since March 1950, when the economic union with Lebanon was terminated in order to give Syria more freedom in protecting its domestic manufacturing industry. Foreign trade has developed as follows (in millions of Syrian pounds):

Year	Customs figures			Adjusted figures		
	Exports	Imports	Balance	Exports	Imports	Balance
1951	277	304	−27	292	418	−126
1952	320	313	+7	337	444	−117
1953	376	307	+69	408	484	−76

459 A major adjustment must be made in the customs returns because they value imports on the basis of the official exchange rate, which is £S 2.20 to the dollar, rather than the actual rate, which in the years 1951-53 has fluctuated between £S 3.51 and £S 3.89. Minor adjustments must also be made to compensate for undervaluation and unrecorded shipments. Even the adjusted returns, however, show a gradual improvement in the balance of trade.

The composition of foreign trade, shown for the years 1951-53 in

TABLE 1 Average Annual Foreign Trade, 1951–1953 (Customs Figures)

	Quantity (metric tons)	Value (thousand £S)	Percentage of total value
Exports			
Livestock and animal products	5,242[b]	31,184[b]	9.6[b]
Wheat	94,390	25,555	7.9
Barley	103,526	19,453	6.0
Cotton	38,607	125,173	38.6
Wool	5,168	25,225	7.8
Textiles	—	31,740	9.8
Other	—	65,847	20.3
Total	—	324,177	100.0
Imports[a]			
Livestock and animal products	788	8,183	2.7
Grains, fruits and vegetables	102,640	34,312	11.1
Petroleum and petroleum products	388,684	37,008	12.1
Chemicals and pharmaceuticals	—	15,888	5.2
Wood and cork	—	9,350	3.0
Textile materials and goods	—	63,812	20.7
Precious metals and stones	—	14,640	4.8
Base metals and manufactures	—	23,731	7.7
Iron and steel	46,148	18,086	5.2
Machinery	—	42,897	13.9
Agricultural machinery	—	12,009	3.9
Transportation equipment	—	15,079	4.9
Motor vehicles and cycles	—	13,364	4.3
Other	—	43,204	14.0
Total	—	308,104	100.0

[a] Valued at official exchange rate.

[b] Excluding wool, goat hair and hides and skins.

439 Table 1,[3] reflects, of course, the general structure of the economy. As already indicated, raw cotton represents well over a third of Syria's exports, and cereals, livestock and raw wool almost another third. In recent years, however, textiles have accounted for nearly one-tenth of the value of exports. As might be expected, imports are more diverse in character. Textile materials and manufactures, machinery, petroleum products and fruits and vegetables are among the principal imports; iron and steel, chemicals and pharmaceuticals, precious metals, motor vehicles and timber are also important.

[448] Despite the dissolution of the Syrian-Lebanese economic union, Lebanon has remained Syria's principal trading partner, taking almost a quarter of Syria's exports and contributing around 10% of its imports. Three countries—Lebanon, France and the United Kingdom—buy over half of Syria's exports; and five countries—the United States, the United Kingdom, France, Lebanon and Western Germany—supply between 50% and 60% of its imports. In the three years 1951-53 about 41% of Syria's exports was marketed in other Arab countries which, however, supplied only 18% of Syria's imports.

457 Syria's normal trade deficit is offset, on the current account of the balance of international payments, by local expenditures and oil transit payments made by foreign oil companies, by UNRWA[4] expenditures in Syria and by emigrant remittances. On capital account, there is evidently some continued net foreign investment, particularly by Lebanese, and some repatriation of capital by Syrians returning to their homeland. A considerable volume of bank funds has flowed to Syria partly because there has been a shift in the financing of Syria's foreign trade from Beirut to Aleppo and Damascus and partly because foreign banks have needed more funds to meet the credit needs of an expanding economy. Although the movement of these bank funds shows sharp seasonal fluctuations, there has apparently been a general upward trend in the amount of foreign banking advances in recent years. Total foreign exchange receipts and payments were not far out of balance in 1950, 1951 and 1952, but in 1953 Syrian gold and foreign exchange reserves, valued at the free rate, increased by £S 51 million. Foreign exchange and gold reserves at the free rate rose from £S 114.3 million at the end of 1951 to £S 157 million at

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[3] See also Annex A, p. 213 *et seq.*

[4] United Nations Relief and Works Administration, charged with the care of Arab refugees from Palestine.

457 the end of 1953, even though Syria paid off during these years all but £ 10.2 million of a £S 44.6 million debt to Lebanon and repaid $1,454,123 to the International Monetary Fund.

Transport

489 The transport system which carries the country's commerce reveals many deficiencies. Although Syria is served by three railways, all were built before the breakup of the Ottoman Empire and therefore do not adequately serve the needs of an independent Syria. The gauges are not uniform, and there is no direct rail connection between Damascus and Aleppo. The port of Latakia, which handles most of Syria's overseas trade, is served only by roads. The railways in 1953 actually carried slightly less cargo than before the war. All of the substantial increase in traffic since the prewar period has been absorbed by motor transport. The number of all types of motor vehicles rose from 3,736 in 1939 to 13,146 in 1953, and the number of trucks from 873 to 4,742. Even such bulky commodities as cereals are now transported mostly by road. Yet the road system is also far from adequate and transport costs are very high.

504 Aside from Banias, which ships only oil transmitted by pipeline from Iraq, Syria has only one major port, Latakia. The volume of traffic at this port, which is still in process of development, has grown rapidly and amounted in 1953 to 90% of the overseas export and 46% of the overseas import trade of the country. The Lebanese ports of Beirut and Tripoli accounted for the balance. In the same year, however, almost half of the total volume of Syria's foreign trade went overland, principally to and from Lebanon.

Money and Credit

652 The monetary and banking system of Syria is still in the process of
451 development. Although a new monetary statute enacted March 28, 1953 envisages the establishment of a government central bank within a few years, the note-issuing function meanwhile remains with the Banque de Syrie et du Liban (BSL) which first received the right to issue currency during the French mandatory regime. Gold and foreign exchange in the monetary cover is bought through the intermediary of the Exchange Office, an autonomous government agency established in April 1952. This

Office is responsible for enforcing foreign exchange controls and regulating 652 the foreign exchange market. Although it has no monopoly, the Office 457 is the principal buyer and seller of foreign exchange either via the commercial banks or directly. While recognizing the postwar depreciation of the Syrian pound from the nominal official rate of £S 2.20 to the dollar, it has intervened to smooth out the fluctuations in the *de facto* or free rate arising from the seasonal nature of the country's exports. Its stabilization operations were initiated at the end of 1952 when it began publishing a daily bulletin of the rates at which it was prepared to buy and sell. In 1953 it broadened its stabilization operations by setting rates for forward transactions. In the initial period it succeeded in narrowing the fluctuations, and since July 1953 it has kept the dollar rate at £S 3.575. Its operations were undoubtedly instrumental in preventing the favorable trend in the balance of payments during 1953 from resulting in a marked appreciation of the Syrian pound, which would have adversely affected Syria's exports. The Exchange Office has allowed rates of other currencies to fluctuate more widely, in accordance with their strength relative to the dollar as reflected in free markets.

Virtually all foreign exchange transactions now take place at the market rate as regulated by the Exchange Office. Foreign oil companies, however, are still required, pending the settlement of a conflict over oil transit payments, to buy Syrian pounds at the official rate for the purpose of meeting their local expenditures; and exchange required for imports of petroleum products is also furnished at the official rate.

Since 1948 foreign exchange restrictions have been progressively abandoned, so that all payments can now be freely made. Although imports are still subject to prior license, exchange is readily made available unless imports are restricted or prohibited for protectionist reasons. No restrictions exist on transfers of capital or payments of invisibles. Most exports are licensed partly to protect domestic consumers and partly to enforce repatriation of foreign exchange for shipments to all destinations except Arab countries. The requirement of repatriating foreign exchange was instituted to provide the Syrian market with a regular supply of foreign exchange.

The Syrian economy is served primarily by foreign banks. Of the 15 453
commercial banks accredited at the beginning of 1954, 10, including all the larger institutions, were foreign: five were French, two Jordanian, and one each Iraqi, British and Egyptian. The BSL, as the largest commercial

453 bank, the principal depository of government funds and the bank of issue, dominates the banking system. There is only one government banking institution, the Agricultural Bank, which extends a limited amount of credit to agriculture. The banks engage principally in short-term financing of foreign and domestic trade. A few, particularly the BSL, now also grant seasonal credits for agricultural crop production up to a limit of 300 days. Competition among banks is keen. Interest rates on loans and advances have tended to decline and are now generally between 5% and 7%. As much as 2% to 3% is paid even on current deposits, with slightly higher rates on time deposits. Although the BSL, functioning in this respect as a central bank, is able and willing to provide ample rediscount facilities, other banks generally avoid rediscounting their paper with an institution they regard as their principal competitor. Foreign banks prefer to obtain any additional funds they may need from their parent institutions abroad. Thus, to meet the expanding credit needs in Syria, the commercial banks increased their liabilities abroad from £S 62 million at the end of 1952 to £S 98 million at the end of 1953; by June 30, 1954, such liabilities had risen to £S 117.9 million as compared with £S 95 million for the corresponding date of the preceding year. Because of their access to resources abroad most of the banks apparently do not consider it necessary to maintain a high proportion of liquid assets to short-term liabilities in Syria.

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486 Although the use of checks has grown, internal payments are still predominantly effected in cash. This undoubtedly accounts for the fact that the proportion of private deposits to net note and coin circulation, although steadily growing, was still only 33% by the end of 1953. As of that time, as shown by Table 2, the total money supply[5] amounted to £S 376.3 million of which £S 271.5 million or about 72% represented notes and coins. The relatively small use of checking accounts also explains, at least in part, the high proportion of bank loans, advances and discounts for the private sector to total private deposits. At the end of 1953 the volume of such credit accommodation—£S 226.6 million—represented 247% of total private bank deposits. In most other countries the amount of bank credit to the private sector tends to be considerably less than the total of private deposits.

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[5] Of the deposits, only the sight deposits of private persons and public enterprises have been included in money supply. The rate of turnover of deposits of the government and public administration is not very high.

TABLE 2 Monetary and Banking Data

(Million £S)

	End of period			June	
	1951	1952	1953	1953	1954
Money supply					
1. Notes and coins (net)	236.1	234.7	271.5	249.0	298.5
2. Private and public enterprise deposits	58.9	76.0	104.8	97.8	123.4
3. Private and all public deposits	114.0	181.2	250.3	205.7	215.1
Total (1 and 2)	295.0	310.7	376.3	346.8	421.9
Total (1 and 3)	350.1	415.9	521.8	454.7	513.6
Monetary gold and foreign exchange					
Total at free rate	114.3	107.6	157.0	106.3	144.8
Percent of note issue	46.1	45.0	36.7	n.a.	n.a.
Deposits (sight and time)					
Public	111.9	128.3	188.9	149.4	181.0
Private	60.5	77.8	96.3	n.a.	115.0
Total	172.4	206.1	285.2	n.a.	296.0
Loans, discounts and advances	115.1	146.0	226.6	187.9	309.5

n.a. = not available.
SOURCE: Office des Changes.

In Syria, as in other underdeveloped countries of Asia, a considerable volume of credit is extended outside the banking system by merchants, landowners and professional moneylenders. Some of these, particularly the merchants, rely in turn on regular bank credit. Most of the credit outside the banking system is extended in the agricultural sector of the economy and is a reflection partly of the inadequacy of such institutions as the Agricultural Bank and partly of the poor credit risk of the borrowers. Loans of this type generally carry high, usurious rates of interest.

Another feature of the credit system is the lack of any institution, outside the Agricultural Bank, for financing investment. There is no mortgage-financing institution for building, and no bank to provide investment capital for industry. The BSL has in the past extended investment credits to industry, but only with the guarantee of the government.

454 Savings institutions are virtually non-existent. There are no special savings banks and the regular commercial banks do not consider it worth while to make a particular effort to attract savings deposits. In fact, total savings deposits in commercial banks at the end of 1953 amounted to only £S 3.5 million. No postal savings system exists, and savings in the form of insurance are negligible. This does not mean that savings do not accrue, but rather that they do not take institutional form and are invested directly, not through the intermediary of institutions or a capital market. Syrians generally prefer types of investments which are tangible and visible, such as land and buildings, and over which they can exercise some personal control. In the past the habit of putting savings into hoards of precious metals or even currency has also been deeply ingrained. There is some evidence, incapable of statistical measurement, that the relative importance of savings in the form of hoards has declined in the postwar period as opportunities for profitable investment have grown. Investment in corporate securities has greatly increased during this period, but only by limited groups of people and under conditions assuring them control over the corporate enterprise. Shares in industrial companies are bought and sold in an unorganized and very limited market.

Economic Growth

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433 One of the most noteworthy features of the Syrian economy has been its rapid growth over the last two decades, as indicated in Table 3. Agriculture and industry have both featured prominently in this development. The availability of idle land combined with the food shortages attributable to the war provided a tremendous incentive to an expansion of agricultural output. The area under cultivation, including fallow land, rose from about 1.75 million hectares in 1938 to 2.3 million in 1945 and has since continued to expand, reaching a total of around 3.65 million in 1953. The area actually planted to crops and orchards accordingly more than doubled during this entire period, rising from 1.16 million hectares to 2.44 million. By far the greatest part of the area put to the plow was dry farming land. According to official estimates, for example, the amount of land planted to winter wheat and barley increased from about 750,000 hectares in 1938 to 1.13 million in 1945 and 1.34 million in 1953, and the output of these cereals about doubled during the whole period. Following the war a considerable expansion of irrigation took place. By 1953 the irrigated area

was officially estimated at 509,000 hectares as compared with 284,000 in 241
1946. The resulting rise in the value of agricultural production was par- 311
ticularly marked, since with irrigation more valuable summer crops could 433

TABLE 3 Indicators of Economic Growth

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	Prewar	1945	1947	1950	1953
Agriculture					
Cultivated area (million ha.)	1.76	2.29	—	3.09	3.67
Cropped area (million ha.)	1.16	1.51	—	2.05	2.44
Wheat					
Area (thousand ha.)	473[a]	751	843	992	1,314
Output (thousand MT)	459[a]	415	404	861[b]	962[b]
Barley					
Area (thousand ha.)	279[a]	384	365	416	428
Output (thousand MT)	290[a]	248	169	322	472
Cotton					
Area (thousand ha.)	30[a]	17.5	19.5	78.0	136.6
Output (thousand MT, ginned)	5.4[a]	4.3	5.4	35.5	47.0
Agricultural production tax (million £S)[c]	—	—	9.1	16.2	22.4
Industry—Output					
Cotton and rayon yarn (thousand MT)	1	—	—	—	9–10
Cotton and rayon cloth (million meters)	15	—	—	—	ca.100
Vegetable oils, excluding olive (thousand MT)	(negligible)	—	—	—	ca.10,000
Soap (thousand MT)	3.4	—	—	—	8.9
Fruit and vegetable preserves (thousand MT)	1.8	—	—	—	4
Cement (thousand MT)	less than 75	—	—	—	224
Matches (million boxes)	11	—	—	—	32.2
Cigarettes (MT)	416	—	—	—	1,644
Electricity (million KWH; principal utilities)	25.1	—	—	—	114.2
Financial					
Government receipts (million £S)[d]	11.5	118.3	116.2	138.9	216.7
Notes and coins in circulation (million £S)[d]	19.9	210.7	183.2	224.6	288.4
National income (million £S)	—	—	—	1,380	1,600

[a] 1934–38 average. The production figures for wheat and barley may well be somewhat overestimated.

[b] Official production figures have been revised upward in the light of the amounts marketed as revealed by the agricultural production tax returns.

[c] The proceeds of this tax, levied on produce brought to market, tend to exaggerate the rate of increase in production, but are nonetheless a good indication of trends in output.

[d] Figures are not deflated for price increases. While a reliable price index is lacking, the price level in the period 1950–53 was probably between five and seven times as high as that before the war.

2/4 be grown. Thus with the stimulus originally imparted by the Korean
311 war boom, cotton, which had long been grown in Syria but on a small
4/33 scale, has developed into one of the country's most valuable crops.

4/33 Manufacturing has expanded rapidly in the postwar period. Although the original impulse was given by the wartime shortage of manufactured goods, new factories were not for the most part established until after the war. Among the new modern factories built since then are six spinning and weaving mills, a considerable number of cotton ginneries, a dyeing plant, six vegetable oil mills, a glass factory, a cement plant and a sugar factory. The total amount of paid-up capital of manufacturing enterprises established in corporate form since the end of the war is in the neighborhood of £S 80 million. Since enterprises generally refuse to disclose their output, statistical measurement of the increase in production is extremely difficult. Very rough estimates indicate that about 9,000-10,000 metric tons of cotton and rayon yarn were produced in 1953 as compared with probably less than 1,000 tons in prewar years. The output of cloth was about 14,000 to 16,000 tons, or more than 100 million meters, as compared with perhaps 15 million meters before the war. The production of vegetable oils (other than olive oil), which was negligible before the war, amounted to around 10,000 tons, and the output of soap, at a level of about 9,000 tons, was almost three times the prewar estimate. Cement production, which was less than 75,000 tons before the war, amounted to 223,639 tons in 1953. The output of cigarettes was about four times, and that of matches three times, that of prewar years.

331 The expansion of agriculture and industry has in turn stimulated commerce, transport and construction. The construction industry in particular has witnessed a postwar boom which lifted the volume of building to a level probably twice as high as that in the years immediately preceding the war. Increasing prosperity, together with the wartime drop in building, generated a large volume of housing construction in all major cities.

4/34 The increase in national income since before the war has undoubtedly been very great; in real terms it may well be almost double. Unfortunately the fragmentary nature and unreliability of statistical data make even approximate estimates of national income extremely difficult. For the postwar years an unofficial estimate has been made only for 1950, when national income was put at £S 1,250 million. Some very tentative calculations made by the mission indicate that this estimate may well be too conservative. These calculations point to a rise in national income from about £S 1,250 million in 1949 and £S 1,380 million in 1950 to perhaps 4534 around £S 1,600 million in 1953. Over the whole period this would indicate an increase of about 28%. Since prices in 1953 were about the same as in 1949, the rise in real terms was apparently about the same. While these estimates, based on very inadequate data, are subject to a rather wide margin of error, it is not unlikely that real national income has been rising on the average at an annual rate of 5% to 6%.

Volume of Investment

The expansion of economic activity in the postwar period has entailed 454 a rather high level of investment (see Table 4). While accurate data are not available, the mission has made some rough estimates of gross investment in construction on the basis of building permits and building costs, and of equipment investment on the basis of imports of machinery, equipment and motor trucks. The indicated annual volume of gross private investment has apparently fluctuated between £S 160 million

TABLE 4 Gross Investment

(Million £S)

	1950	1951	1952	1953
Private investment				
Construction (housing, industrial, commercial)	122.0	116.0	127.0	138.0
Industrial machinery	20.0	33.0	28.0	30.3
Agricultural machinery	10.7	35.6	17.3	14.3
Truck transport	8.7	11.0	4.4	2.8
Sub-total	161.4	195.6	176.7	185.4
Public investment				
Irrigation	0.8	0.8	0.8	3.1
Transport and communications	8.1	8.7	6.4	10.1
Education and public health	3.4	3.4	3.4	3.9
Municipal services	12.5	17.1	17.3	22.2
Other construction, including administration buildings	1.0	1.0	1.0	0.5
Sub-total	25.8	31.0	28.9	39.8
Total gross investment	187.2	226.6	205.6	225.2

454 and £S 195 million in the four-year period 1950-53. The average has been about £S 180 million. Of this amount about 70% is accounted for by all building and probably 56% by housing construction. That investment in other sectors, notably agriculture, has not been heavier is undoubtedly due to the fact that most of the increase in farm output has been achieved simply by occupying and cultivating idle land which entailed relatively little investment.

454 652 Public investment has been much more modest. On this subject the data obtained by the mission from various government agencies were conflicting. The available information, reconciled as far as possible, points to an annual total ranging from £S 25 million to £S 40 million, with the average about £S 31 million.

454 The total gross investment, which the mission believes has been rather conservatively estimated, is undoubtedly surprisingly high. On the average, it has probably amounted, over the four years 1950-53, to 13-14% of the gross national product. By comparison with other underdeveloped countries in Asia, this rate of investment represents a remarkable record of achievement. There is no evidence either in the balance of international payments or in the price structure that this volume of investment over the four-year period as a whole was financed by inflationary means. It was apparently financed for the most part from genuine savings, supplemented by some inflow of capital from abroad. In the immediate postwar years much of the investment was probably financed from the enforced savings accumulated during the war. Wartime money incomes were high. Commerce profited heavily from the scarcity of goods, and Allied troop expenditures in Syria were substantial. Money circulation increased sharply, but against a French franc counterpart. At the same time the shortage of goods kept down spending. Assets abroad increased, as did savings in the form of gold and precious stones. One source estimates that foreign assets, quite apart from the French franc counterpart of domestic currency circulation and savings in gold and precious stones, rose during the war by £S 325 million.[*] Part of such savings was undoubtedly used for consumption after the war, but a significant portion was probably invested at home. A substantial part of the profits earned in the postwar expansion of agriculture, industry and commerce was evidently reinvested. The business

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[*] Mohammed Thome, *Le Rôle du Crédit dans le Développement Economique de la Syrie depuis la première Guerre Mondiale jusqu'à nos Jours* (Madrid, Ediciones Castilla, S.A. 1953), pp. 217-18.

community has been "investment conscious" and has engaged in little 454
conspicuous spending except perhaps for housing.

Predominance of Private Enterprise

A characteristic feature of Syria's rapid economic development is that 471
it has been almost wholly due to private enterprise. In spite of frequent 654
changes in government, private enterprise has retained a buoyant outlook and continued to expand. Manufacturing industry developed with little or no government support, except that in recent years the government has provided some financial assistance and considerable protection against foreign competition. Although the government has slowly increased its services to agriculture and may be said to have contributed to its expansion by interposing no bars to the occupation and cultivation of new land, it did not play a significant role in the great increase in output. Even the development of irrigation has been left primarily to private enterprise, which has extended the irrigated area by sinking wells and, above all, by installing pumps on river banks. Thus only 48,000 hectares are irrigated by government schemes, whereas 250,000 hectares are irrigated by privately installed pumps. In the field of transport, as already indicated, private motor carriers have assumed the burden of increased traffic despite poor public roads.

The most significant, though indirect, contribution made by the gov- 658
ernment to development has been in the field of education. Increased outlays on education account for almost half of the total postwar expansion in non-defense ordinary budget expenditures, which rose from an actual total of £S 70.9 million in 1945 to an estimated figure of £S 125 million in 1954. During this period the number of schools and pupils more than
doubled. The literacy rate has probably been lifted to around 40%, which [212]
compares favorably with most Arab countries. In the field of communications the government has been active, notably in the development of the port of Latakia and in the expansion and improvement of the telephone network.

The Syrian economy has now probably reached a stage in its develop- 654
ment at which the government must undertake a more important pro- 433
motional role. It is unlikely that in the future private enterprise will be 311
able to maintain, unaided, the past rate of expansion. The amount of idle land that can be put to the plow without significant investment has

654 433 311 severely diminished, and agricultural prices no longer afford such a powerful stimulus to the expansion of acreage. Extension of the irrigated area must depend increasingly on public investment, particularly since the area which can be economically irrigated by privately installed pumps cannot be greatly expanded.

654 433 High transport costs and the low quality of grain are becoming serious handicaps to Syria in an increasingly competitive world grain market. In other sectors economic activity seems also to be slackening. The future growth of industry is likely to be less rapid now that the more obvious manufacturing industries have been established. In construction it is also quite possible that the postwar boom has passed or will shortly pass its peak. Thus in the absence of a well-considered government program to stimulate the economy, the rapid increase in production and private investment may well taper off.

654 241 In agriculture the government now faces the need to make a careful inventory of remaining land resources, to carry out irrigation projects on a greatly increased scale and to initiate settlement schemes for state lands. Steps must be taken to maintain and stimulate Syria's grain exports by providing better and cheaper transport and establishing facilities for the storage, grading and cleaning of cereals, thereby reducing losses and improving quality. In the future more emphasis will need to be placed on raising agricultural and livestock yields. The government will have to stimulate farmers to use better seeds and implements and to improve their crop rotation in the direction of soil-building crops and greater diversification. Livestock yields must be raised by undertaking a program of selection and cross-breeding, by building livestock shelters and providing more water for migrating livestock, and by initiating a more effective campaign against pests and diseases. To achieve these objectives the government must also expand and improve agricultural education, make available extension services at the village level and furnish much more agricultural credit on reasonable terms. Special efforts are required to assist the small peasant proprietor and the tenant who have not in the past fully shared in the rising prosperity. They must be helped to achieve greater economic independence and security and enabled to acquire the means of production with which to increase their incomes.

654 433 Although further expansion in industry should prove possible, greater emphasis will have to be placed on selective expansion and on increasing efficiency so as to lower prices and broaden the market. Here the govern-

ment will need to help private enterprise achieve these goals by collaborat- 654
ing, for instance, in the establishment of an institution to furnish technical 483
and financial assistance, revising policies for the protection of industry from foreign competition and working towards the creation of a larger market for manufactured products, particularly through an intensification of economic cooperation among Arab countries.

To service the economy new and better roads and a larger supply of electric power are clearly necessary. Both of these call for a substantial increase in public investment. Transport is the most important bottleneck in the economy today; the acute shortage of power in major centers such as Aleppo and Damascus is already receiving government attention.

While expansion of the production base of the economy is the para- 657
mount task of the future, education, public health and the social services will also make greater claims on the government's resources. A further extension of educational facilities is undoubtedly necessary, but at the same time more stress must be placed on improving the quality and content of education. The condition of public health still leaves much to be desired. While the most urgent deficiencies in hospital accommodations must be remedied, the most pressing need is to concentrate increasingly on the prevention of disease by such measures as an anti-malarial campaign, improvements in sanitation and provision of pure water supplies. A marked and general improvement in housing conditions is likely to result only from a substantial increase in production and improvement of living standards but the government should at least assist the larger municipalities to initiate a program to cope with the worst conditions of housing congestion, a by-product of rapid but uneven economic growth.

A program of this type, which we shall elaborate in subsequent chapters 010
of this report, should lay the foundation for a renewed and continued economic advance. It will serve not simply to compensate for a possible slackening of private investment but above all to create ultimately increased opportunities for greater private investment and enterprise which will expand production and raise standards of living.

The government has become increasingly aware of the task that lies 654
ahead. Its request for an International Bank mission to work out recom- 511
mendations for development testifies in part to its concern. It realizes that despite the economic progress of the past, the country cannot be satisfied with the current state of development and the standard of living it sustains. National income is still only around £S 440 per capita. Moreover,

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with the wide disparities in income, the great majority of people have an income substantially under this average. The bulk of the rural population remains impoverished and does not share adequately in the fruits of its toil. In the urban areas many people earn only a bare livelihood and live in wretched, overcrowded conditions. In industry the daily wage of unskilled labor is no more than £S 3 to £S 4. In the future, therefore, the aim should be not simply to raise production and national income but to ensure that all elements in the population share equitably in the benefits of economic development.

CHAPTER 2

ECONOMIC PROGRAMMING AND ECONOMIC DATA

The Mission's Task

Before discussing its recommendations in various fields, the mission 121 considers it advisable to explain briefly its conception of, and its approach to, this task. In broad terms, the mission was charged with working out an economic development program for the consideration of the Syrian government. The object of this program is manifestly to improve the standard of living in such a way that all elements of the population may share in the benefits of an expanding economy.

The program we have elaborated is one for government action. Under a free or private enterprise economy production and investment by private individuals cannot, of course, be programmed. At the same time it is obvious that the government's economic efforts must be directed largely toward stimulating output and that the volume of production and private investment in turn affects the resources available to the government for financing its program. There is thus an intimate interrelationship between the government's program and private effort. We have already indicated that there are signs pointing to a decline in the rate at which the private enterprise economy has been growing. Although such a prospective decline is extremely difficult to measure in quantitative terms, we have sought to take it into account both in devising a government program and in assessing the available resources. In our view the trend in private economic activity makes an effective program of government action all the more urgent.

We have not conceived of a development program simply as a series of public investment projects properly related to each other so that they form a consistent whole. Public investment in irrigation, roads, education, public health and other fields undoubtedly plays an important role in stimulating production and improving conditions of life. There is, however, a wide variety of public expenditures which do not take the form of investment but nevertheless significantly influence the level of economic

121 activity. These range from continuing expenditures on the preservation of public order to current outlays on education and public health and on government services for agriculture. Indeed, few activities of the government are entirely unrelated to development. This does not mean that the mission has taken within its purview virtually the entire scope of government operations. Many of these, for example in the field of public security, manifestly can be taken for granted. In general the mission has concerned itself only with those current expenditures which appeared to require expansion because they would provide a significant stimulus to the economy or because investment projects in turn entailed larger current outlays for operation and maintenance.

It was not the mission's task to work out in detail specific investment projects, whether in agriculture, industry or transport. A number of projects were included in the recommended program on the basis of prima facie evidence that they were likely to prove economically rewarding. Subsequent detailed engineering and economic appraisals may well lead to the modification of some of our recommendations. The mission confined itself to indicating the general lines along which development should take place and the approximate allocation of government resources which appeared appropriate in the light of available facts.

The mission had to frame a development program which would be within Syria's capacity to finance. This in itself imposed certain requirements on us. In proposing any measure it was necessary to appraise at the same time its cost to the government. It will be understood that such cost estimates could be only rough approximations in most cases. When the mission's recommendations are worked out in greater detail by the government, firmer estimates will no doubt become available. It was also essential to take into account all the government's prospective expenditures irrespective of their relationship to economic development. The adequacy of financial resources could not be assessed without considering all the claims that would be made on the use of available funds. Thus, although none of the mission members was a specialist in education and public health, it was necessary to examine the requirements of these services which in recent years have absorbed 36-37% of ordinary budget outlays. Certain expenditures, such as those on defense, obviously fell outside the scope of the mission's inquiry, but even here some assumption as to their future magnitude had to be made.

In estimating the financial resources available to cover projected expenditures, the mission has tried to appraise, first of all, the effect of future economic development on tax revenues. In making this estimate the mission assumed, as already indicated, that the economy would not expand as rapidly as in the past. More reliable information on the past rate of economic growth and on the development potential would undoubtedly have facilitated a more accurate prognosis. Secondly, the mission had to explore the possibility of increasing government revenue by more efficient collection of existing taxes and levying new taxes. Finally, it was necessary to adopt a number of assumptions regarding the development of non-tax receipts, including domestic borrowing and foreign financial assistance. It will be appreciated that the projection of government revenues as well as of expenditures over a number of years is beset by many uncertainties. Several crop failures, for example, could easily upset the balance and necessitate a modification of the program.

We have not been concerned exclusively with drawing up a program of government expenditures. Major economic and financial policies related to development have also been considered. Such policies can affect significantly the extent, direction and efficiency of private enterprise.

In working out its recommendations for a program, the mission has thought in terms of a period up to the end of the year 1960. The determination of any given period is always to some extent arbitrary. We felt, however, that any projection beyond 1960 would be attended by excessive uncertainty, and at the same time we considered that any significant accomplishment would require continuous effort over at least five or six years. Throughout this report we refer to our proposals as a six-year program, indicating that 1955 is considered as the program's initial year. Since our report was not submitted informally to the government until the end of 1954, only certain preliminary measures are likely to be taken in 1955. This means that the recommended program actually extends over five full years.

The mission's recommendations are obviously designed to provide only guidance for the government in working out its own development program. Economic programming must be done both on an annual basis and on a longer-term basis. The longer-term program such as the six-year plan we have outlined is needed to determine the goals and the approximate allocation of resources which may be envisaged. It will need to be periodically revised in the light of progress achieved, changes affecting the availability of resources, alterations in world economic conditions and

121 any new facts which may be brought to light as the result of more thorough investigation of particular projects. Within the general framework of the longer-term plan, an annual program will need to be drawn up in much greater detail, taking into account the exact status of particular projects and the resources in both personnel and funds which are likely to be available during that specific year.

Any program will be conditioned by the availability of personnel as well as of financial resources. The mission's recommendations rest on the assumption that measures will be taken to train people for certain parts of the program, to obtain more technical assistance from abroad and to raise the standards and improve the efficiency of the government service. Even under the best circumstances, however, the execution of the many proposals we have made will place a great burden on the government. Progress may therefore not be as rapid as we have assumed. It should be pointed out, however, that we do not anticipate that the government will begin to implement all our proposals at once. Presumably only a few can be acted on in the first year, and many of our suggestions, particularly in the field of agriculture, relate to projects which would only be begun within the six-year period and which would be carried out in the main after 1960. We judge it important, however, to initiate action along a broad front during the next five or six years so that development thereafter may gain increasing momentum.

In formulating our proposals we have drawn on many sources for suggestions. Many of these proposals have been considered by the government at various times. The fact that some have been incorporated in our proposed program without a discussion of their origins does not mean that the mission claims to have originated them. Similarly, in focusing on those measures which should, in our opinion, be taken in the future, we have not always been able to pay adequate attention to the accomplishments of the past. There is no doubt, however, that Syrian people can be proud of the achievements during the first decade of the country's independence.

[illegible] *Limitations of Data*

The mission wishes to emphasize that the lack of reliable information on many aspects of the economy made its task considerably more difficult. It is essential that a much greater effort be devoted to gathering data which will clearly reveal the progress being made by the economy and the types and magnitude of the problems which must be met from time to time.

In the field of agriculture, for example, too little is known about the available land resources. Only a beginning has been made with soil classification, and the extent and quality of idle agricultural land are largely unknown. Topographic and soil surveys which are needed to determine the feasibility of irrigation projects have for the most part not been undertaken. Information on the amount and sources of credit available to agriculture is also lacking. The present methods of compiling estimates on production and acreage are admittedly far from accurate. The mission strongly recommends that an agricultural census be carried out along the lines already proposed by an FAO expert. The information so obtained should be kept up-to-date by annual sampling. It would also be advisable to check the production figures thus gathered against the returns of the agricultural production tax. These tax returns, for example, could be analyzed on a quarterly basis to give the government an approximately accurate indication of the volume of many agricultural products entering the market.

In transport the occasional and rather haphazard checks on road traffic made in the past hardly afford a very good basis for road planning. A more systematic census of traffic should be periodically carried out, during both the seasonal peak and the seasonal low.

In industry the inadequacy of data is even more marked than in agriculture. Almost no information is available on production, investment and employment. The only published figures on output are those relating to alcohol, tobacco manufactures and cement. Industrial enterprises have in the past been unwilling to disclose reliable data on their operations for fear of government intervention and additional taxation or of betraying information to competitors. Any government should, however, have access to periodic statistics on output, employment and investment to permit it to determine the growth of the economy and to formulate policies for stimulating further development. The government should take steps to persuade industry of the importance of this information and to assure it as far as possible that data on individual firms will not be published or utilized in any way for tax purposes. The latter objective might be partially achieved if the present central statistical office were made independent of the Ministry of National Economy and directed to make the information collected available to other government agencies only in the form of aggregates which would not disclose the position of individual enterprises.

A regular compilation of national accounts would also help the government to diagnose the developing economic situation and to frame appropriate economic policies. Estimates of the gross national product should reveal the contribution made by each economic sector and the proportion of the total output being devoted to consumption and investment. Figures on national income by distributive shares should also be regularly compiled. At the request of the Syrian government the Economic Research Institute of the American University of Beirut has already made certain proposals for a survey of national income. We can only urge that this work be undertaken as soon as possible and ultimately made a continuing responsibility of the government.

It would be highly desirable also to undertake, by sampling, a number of studies of the consumption pattern of people at different income levels. In this way it should be possible to gauge what effect economic development and rising incomes are likely to have on the demand for various types of products and on the rate of savings and investment. The data thus collected could also be used as the basis on which cost of living indices could be constructed, and these indices in turn would enable the government to determine how various income groups are faring in a changing economic situation.

In the realm of finance much needs to be done to remedy existing deficiencies in data. In the last few years the government has developed comprehensive banking statistics, and this in itself demonstrates what can be done when special efforts are made to improve statistical information. On the other hand, current knowledge of the government's own financial operations is far from satisfactory. The mission, for instance, was unable to get a clear explanation of the Treasury's accounts or of the relationship of its cash position to stated government receipts and payments. It should be noted that the government has taken steps to improve this situation by engaging the services of a foreign treasury expert. Similarly, we were unable to obtain a comprehensive picture of total government expenditures by purpose and accordingly found it impossible in many cases to relate the expenditures we have recommended for the future to those actually undertaken in the past. Thus expenditures under the ordinary budget are grouped by administrative headings rather than by purpose, and extrabudgetary expenditures on individual projects are authorized from time to time without being assembled into an annual capital budget accompanied by a comprehensive financing plan. We recommend that in the future all expenditures be included in a comprehensive annual budget and that as far as possible appropriations be classified also by purpose. In addition, the government would find it advantageous to compile periodic and up-to-date information on actual cash disbursements and receipts in order to determine the effect of its financial operations on the economy and to measure whether expenditures on various development schemes are proceeding at a satisfactory pace.

Periodic figures on the balance of government cash outlays and receipts, together with the banking data already being compiled, would be helpful in determining whether development is proceeding without jeopardizing the economic and financial stability of the country, that is, without generating either serious inflation or deflation. For this purpose reliable statistics on prices and on the balance of international trade and payments are also essential. It is generally admitted that the existing wholesale and retail price indices are unreliable indicators of the movement of price levels and that new indices ought to be constructed with the help of expert advice. Foreign trade data are generally satisfactory, although a special attempt should be made to make them available more quickly and in such a form that government officials will be able to ascertain at a glance trends in imports of significant consumer and investment goods and in exports of the most important commodities. Considerable progress has been made in compiling data on the balance of international payments but further efforts are necessary to narrow the margin of error in the adjustments which have to be made with regard to official trade figures, as well as in estimating current "invisible" receipts and payments and capital movements.

Improvement of Statistical Services

A number of government agencies will undoubtedly have to share the responsibility for compiling sufficient information to assist the government in working out and modifying its economic program and measuring the progress of development. Much of the responsibility, however, will devolve on the central statistical office. Its resources and staff will have to be strengthened considerably. We suggest in the first instance that it engage at least one adviser from abroad to help it draw up a statistical program. The types of statistics which are of primary relevance to development will have to be determined and the methods of compiling them prescribed. The work on national income which we hope will be undertaken should yield many specific recommendations for the improvement and expansion of existing statistical information. A thorough canvass of the statistical data available in scattered form in many government agencies should also prove useful. We believe that a minimum of £S 1 million should be made available over the next five or six years to strengthen the statistical services.

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CHAPTER 3

AGRICULTURE AND ANIMAL HUSBANDRY

1 CHARACTERISTIC FEATURES AND PROBLEMS

A development program for Syria must focus primarily on agriculture. 241 Despite the expansion of manufacturing, agriculture will continue to be the country's principal industry. Its potentialities are still large. It not only employs more people than any other occupation, but furnishes most of the raw materials for manufacturing and gives rise to most of the business in commerce.

The mission has drawn up its recommendations in the light of the characteristics of Syrian agriculture and the principal problems which must be met. Its conception of these characteristics and problems, as outlined below, must therefore be clearly understood.

1. *Syrian agriculture is primarily dependent on rainfall which is* 241 *seasonal, varies considerably from year to year and is frequently scanty.* 311

Irrigated land accounts for only 11-12% of perhaps 3.5 million hectares under cultivation. Since there is no rain during the summer, winter crops predominate. Wheat and barley are therefore the principal crops; and the possibilities of diversification are limited. In most of the cultivated area normal rainfall is barely adequate. Periodic droughts such as the one in 1951 tend to make farm income very unstable.

All this points to the need for expanding the area under irrigation as much as possible. The proper conservation and use of the limited water resources is one of the paramount problems of Syrian agriculture. The extension of irrigation in the past has already made possible the introduction of such new crops as cotton and sugar beets which have added substantially to agricultural income.

2. *The great increase in the area under cultivation over the last few decades severely limits the possibility of further expansion without irrigation.*

In the past there was plenty of good idle land available for farming. The rapid extension of cultivation was greatly facilitated by the fact that

241 311 people could claim title to "empty" land by simply occupying and cultivating it for a period of years. Legislative Decree No. 135, although never applied, was enacted to halt this unregulated expansion by making all unoccupied land state domain and thus subject to exploitation only with a prior permit. This legislation implicitly recognized that the amount of land that could still be put to the plow was steadily shrinking. Nonetheless the mission encountered a widespread impression that agricultural land resources were virtually limitless. Official estimates that there remain somewhat over 3 million hectares of land available for cultivation appear to support this impression. However, such an estimate is at best only a rough guess. It undoubtedly includes much land which is marginal from the standpoint of fertility or rainfall. It should be frankly acknowledged that there is little or no reliable information on this subject. The mission itself gained the impression on its travels that the amount of land still available for cultivation without irrigation is extremely limited. Here and there in the Jezireh, for example, cropping has already pushed forward into marginal land. Even though good yields may be obtained on such lands in seasons of abnormally heavy rainfall, farming would normally be very hazardous.

Certain conclusions must be drawn. The first is that irrigation will need to play an increasingly important role in the expansion of land under cultivation. The second is that a careful inventory and classification of the land still available should be undertaken in order to determine how it may be most effectively utilized and what must be done to make it productive. The final conclusion is that there is need to work out policies and programs for the exploitation and settlement of such good land as remains.

241 423 3. *Ownership of the means of production in agriculture is very unevenly distributed, resulting in wide disparities in income.*

Land ownership is by no means equally distributed. There are many landless peasants, while large landed estates, some exceeding several hundred thousand hectares, predominate in the provinces of Hama, Homs, Aleppo and the Jezireh. One estimate indicates that 38% of the total area of privately owned land was in holdings of over 100 hectares and only 19% in small holdings of 10 hectares and less. Reliable figures on the distribution of land ownership will be available only upon completion of the cadastral survey now in progress. Of the area surveyed by the end of 1952, however, 49% was held in properties of over 100 hectares and 16% in properties of more than 1,000 hectares. These proportions, however, are

likely to decline somewhat when the survey is completed for the Hauran 241
and Djebel Druze where small peasant ownership predominates. 423

Water for irrigation is supplied chiefly by merchants and wealthy landowners who have the means to install pumps. Similarly, the ownership and operation of modern agricultural machinery are primarily confined to large operators in the Jezireh.

Ownership of the critical factors of production carries with it the ability to demand a large share of the output. In areas where rainfall is inadequate the pump owner, who is frequently not the landowner, can exact from 45% to 60% of the crop simply for the water he supplies. Where labor is plentiful and rainfall adequate, the landowner can get up to half of the crop simply by allowing others to cultivate his land. On the other hand, in the Jezireh land is plentiful by comparison with labor and rents for only a 10-15% share of the crop. Here the owners of tractors and combines control the central factor of production and can command the lion's share of the output.

The small cultivators have no capital or access to capital that would enable them to acquire more land, better machinery and livestock, pumps and other means of production by which to raise their standard of living and make themselves independent. Nor are they organized in cooperatives [illegible] to undertake these things collectively. Even the larger farmer frequently has great difficulty in getting necessary capital on reasonable terms.

One of the most important objectives of an agricultural program is therefore to provide an adequate volume of credit on equitable terms in order to make the needed means of production more generally accessible. The organization of cooperatives to facilitate group action among small farmers should be another aim. No single peasant, for example, has enough resources to sink a well or install a pump, but a group of peasants could pool their resources to this end. Finally, it would appear vital to conserve the good land remaining in state domain for the purpose of settling landless peasants and Bedouins and thus gradually increasing proprietorship.

4. *Despite the existence of many large properties, land is predominantly* 241
tilled in small holdings by tenants or peasant-owners who earn a rather 423
precarious livelihood. 427

Large-scale exploitation prevails only in the Jezireh and to some extent in Aleppo where land is farmed in big units with mechanized equipment and paid labor. Even the large estates are for the most part farmed in small units by sharecroppers who are tenants at will, seldom cultivate the same

244 piece of land for long and thus have virtually no incentive to improve the
423 land. Many large landowners do little beyond collecting their share of the
427 crop, leaving relations with their tenants in the hands of agents. They
[8-52] often stake their tenants to seed, livestock or implements or tide them over with food and clothing until the harvest comes in; and in the absence of adequate credit institutions they thus serve a useful function. In most cases, however, such assistance in cash or kind is given on terms which conceal extremely high rates of interest. In other cases credit may be furnished without interest by landlords conforming strictly to the Islamic code. It must be recognized also that some and probably a growing number of large landowners take a more active interest in the management of their land and have been instrumental in introducing new crops such as cotton. Progressively minded owners of large estates, when interested in improved crop rotation and methods of production, can become the means for more rapid advancement of agriculture.

244 The small peasant-owners and sharecroppers, who carry on most of the
423 agriculture, produce primarily for their own consumption. Their output is little influenced by market prices, for they must produce to eat and with the balance they buy such simple necessities as they can. Most of them wrest a bare living from the soil and are chronically in debt to the merchant, the professional moneylender or the landlord. Unable to bring their produce to the market or to wait for better prices, they must accept the price offered to them locally for whatever they produce in excess of their own needs. They till their land with methods hallowed by time, and their equipment for the most part consists only of a pair of draft animals and a wooden, iron-tipped plow.

Any program of assistance to agriculture must obviously focus largely on these cultivators. It must show them how to improve their methods of production, provide them with better seeds, equipment and animals. Through the organization of cooperatives and the provision of adequate agricultural credit it should help to free them gradually from excessive dependence on the landlord, merchant and moneylender. It must also pay attention to tenancy problems with the objective of establishing greater security of tenure, providing more incentive to cultivators and achieving a more equitable sharing of the produce of the land.

423 5. *The uncertainty and confusion surrounding land titles is another obstacle to land improvement.*

The uncertainty surrounding land titles has been largely inherited

from the Ottoman Empire. Conflicting land grants have often been made 423
in the past, and many claims to land rest upon grants of dubious validity. Titles frequently have not been perfected or entered into official registers. Even title deeds which are registered often contain conflicting or vague specifications regarding the area and the boundaries of the property. A considerable amount of land is still held in common village ownership and periodically reallocated among the villagers who accordingly have little interest in the permanent improvement of their changing allotments.

Programs to determine and delimit titles through a cadastral survey and to convert village common land into individual peasant holdings have been under way for several decades, but progress has been painfully slow.

6. *Agricultural yields are considerably below potentialities.* 241

Agricultural yields in Syria generally do not compare unfavorably with 433
those in most other countries. Cereal yields tend to be about 10-20% below the world average and substantially below those achieved in Europe, but cotton yields are well above the world average and now approximate those in the United States. The output per hectare for virtually all crops is better than that in the rest of Asia.

This general picture does not, however, justify complacency. The relatively good yields have no doubt been largely due to the fact that the frontiers of cultivation have been pushed steadily forward into new and virgin lands. Without this rapid expansion of the area under cultivation, productivity would probably have declined. The mission noted evidence of soil depletion and falling yields in certain areas which had been continuously farmed over many years.

With the diminution in the supply of available new land, Syria will in the future have to rely much more on an improvement in yields to maintain the rise in output. The potentialities unquestionably exist. Fallow is still virtually the only method employed to maintain and restore soil fertility. Thus at least a third of the arable land lies idle each year. Animal manure is almost wholly used as fuel. The use of fertilizers is still in its infancy; in 1953 only 11,171 tons were imported. The practice of green manuring is virtually unknown. Insects and diseases still take a heavy toll. Much higher yields can be obtained through better selection of seeds and varieties, improved crop rotation and better soil preparation and cultural practices.

7. *Animal husbandry is not practiced as an integral part of agriculture* 231
and is still on a low standard. 241

231 241 Mixed farming is rare. Except in limited areas adjoining the few large cities, no fodder is grown for livestock. None of the considerable volume of oil cake and meal and beet pulp produced in Syria is used for animal feed. On farms animals feed primarily on grain stubble and cereal straw. Most of the livestock is entrusted to Bedouins who take their flocks of sheep and goats into the Syrian desert or steppe for grazing after the rainy season and return them to the cultivated areas after the sparse vegetation of the desert again dries up. Insufficient water, feed and lack of shelter on these migratory routes often combine to inflict a rather high mortality rate on livestock. Inadequate nutrition also increases the susceptibility of livestock to parasites and diseases.

These conditions indicate a need to introduce fodder into the crop rotation scheme, to improve pastures and to provide shelter and wells corresponding to the carrying capacity of the desert. While better nutrition is most essential, an effective campaign against disease and improvement in livestock breeds would also make an important contribution to raising the standards of animal husbandry.

442 241 8. *The organization and methods of marketing are in many respects defective.*

High costs of transport and the weak bargaining position of the farmer depress farm prices; and the cost of distribution combined with inadequate grading and cleaning is beginning to threaten Syria's competitive position on the world cereals market. Lack of credit and high storage prices generally compel farmers to throw their products on the market immediately after harvest. The merchant who has access to credit and often finances the farmer can largely dictate prices to the cultivator who has no reserves.

A number of measures to cope with this problem are indicated. Proper cleaning and storage facilities for grain are needed to enable farmers to get better prices and assist Syria in maintaining its position in a declining cereals market. New and improved roads would help to reduce marketing costs, and the availability of more and cheaper credit would make the farmer less dependent on the merchant.

100 All these problems and indicated measures will now be discussed more fully under the following headings: irrigation and reclamation; land policies and land settlement; improvement in agricultural production; animal husbandry; agricultural credit, cooperatives, marketing and education.

II IRRIGATION AND RECLAMATION

The extension of irrigated land is of vital importance in a country like 311
Syria, where large potentially fertile areas yield little or nothing because 312
rainfall is inadequate and where nearly all of the cultivable area produces no summer crops because no rain falls from spring to autumn. It has become even more imperative with the shrinkage in the area of good rainfed land which can still be taken under cultivation. Thus irrigation is the principal means for expanding the cultivated area, increasing and stabilizing yields and diversifying agricultural production by developing summer crop cultivation.

Existing Irrigated Areas

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At present about 400,000 hectares of land are probably already under irrigation. Of these, approximately 250,000 hectares are irrigated by pumps drawing water principally from rivers but also from wells. Most of the river pumps are located in the valley of the Euphrates and its tributary, the Khabour, while by far the greater number of pumps drawing on underground water is in the provinces of Hama and Aleppo. Except for small areas still supplied by animal-driven *norias* (water wheels), the remainder is irrigated by gravity flow from rivers, springs and *foggarahs* (underground ducts). Only 48,000 hectares are covered by government irrigation schemes, including the Homs-Hama scheme providing a rather inadequate supply of water from the Homs lake to 22,000 hectares; the Mzerib project in the Hauran, which irrigates 2,500 hectares from the springs feeding the Yarmuk river; the Tell Maghass scheme on the Khabour, which provides for 8,500 hectares but is not completed; and the Matkh project covering 15,000 hectares south of Aleppo, which receives a wholly inadequate supply of water from the Kouek river during the dry season when most of the water in the upper reaches of the river is taken by Turkey for irrigation.

The possibilities of additional irrigation are by no means limitless. [123]
Except for the Euphrates, Syria has no large river with a substantial flow during the summer dry season. In fact the Euphrates accounts for 83% of the aggregate annual flow of Syria's rivers. Thus the available water supply may set a limit of 400,000 to 600,000 hectares on the additional area which can be irrigated. In the last analysis, however, the upper limit will be determined by the division of the Euphrates water with Iraq, which is in the

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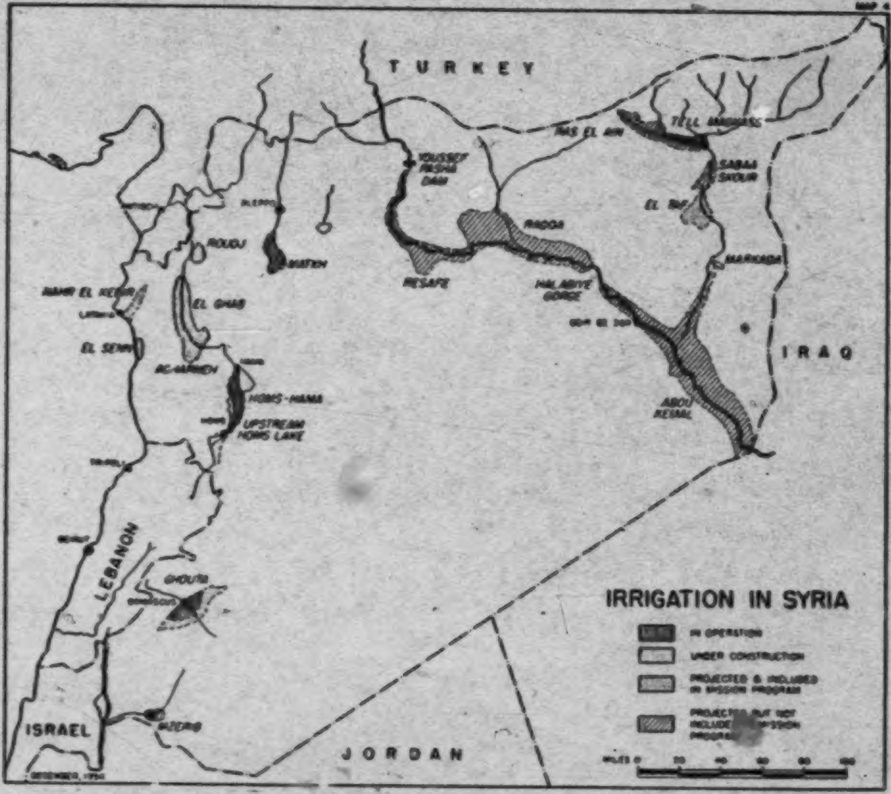

IRRIGATION IN SYRIA

TURKEY
IRAQ
JORDAN
LEBANON
ISRAEL
YOUSSEF PASHA DAM
RAS EL AIN
SABAA SKOUR
RAQQA
RESAFE
HALABIYE GORGE
MARKADA
DEIR EZ ZOR
ABOU KEMAL
ALEPPO
ROUDJ
NAHR EL KEBIR
LATAKIA
EL SENN
EL GHAB
ACHARNEH
HOMS-HAMA
UPSTREAM HOMS LAKE
BEIRUT
GHOUTA
DAMASCUS
MZERIB
IN OPERATION
UNDER CONSTRUCTION
PROJECTED & INCLUDED IN MISSION PROGRAM
PROJECTED BUT NOT INCLUDED IN MISSION PROGRAM
MILES 0 20 40 60 80 100
DECEMBER, 1954

312 process of expanding considerably the area irrigated from that river.

Government projects based on the use of river water will have to be the principal means of extending irrigation in the future. Private pump irrigation from rivers or wells cannot be expected to increase rapidly. Additional privately operated pumps could in theory put more land under irrigation, but the land still available for such irrigation would for the most part require higher-lift pumps which are much more expensive to operate. In fact, few new pumps have been installed in the last few years. Moreover, the extension of private pump irrigation on terms which are very burdensome to cultivators appears socially undesirable. Nor is the prospect of expanding irrigation with underground water, particularly through wells, very promising. Underground water in the drier areas of the country is quite limited in supply and often contains harmful sodium and magnesium salts. More extensive investigation of underground water is unquestionably needed, but this should focus in the first instance on finding adequate supplies of drinking water in such areas as the Hauran and Djebel Druze where supplies for human consumption are seriously inadequate and in the Syrian desert where water for livestock is sorely needed. The many wells sunk in certain parts of the country have generally been shallow and have, in one district at least, tended to lower the water table; and the extension of wells to deeper water-bearing strata capable of providing a more plentiful and stable supply may well entail such a heavy investment and high operating costs as to be justified only for crops, such as vegetables, having a high return per hectare.

Completion of Projects Under Way

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653 Any program must, of course, provide for the completion of government projects already under way. Tell Maghass remains unfinished even though it has been under construction for 10 years, and it is imperative that the remaining part of the canal system be completed rapidly and that the necessary funds—£S 4 million—be provided. The El Senn project, designed to irrigate 5,000 hectares south of Latakia, is over half finished. In the Roudj, a swamp of about 4,000 hectares in Aleppo province, facilities for drainage have just been completed, but an irrigation system must still be planned and laid out. The completion of the latter two projects will require a further expenditure of about £S 4 million.

Reclamation of the Ghab[7]

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By far the most ambitious project undertaken by the government is the reclamation of the Ghab. This large marsh, stretching north and south along the borders of Latakia and Aleppo provinces, was created by the Orontes river whose flow has been impeded by the existence of a hard basaltic sill at Kfarie. The plan is to reclaim an area of 35,000 hectares by lowering the sill, deepening the river bed and constructing a network of drainage canals. Two reservoirs to be constructed at Halfaya and Rastane will regulate the flow of the Orontes river and store water sufficient to irrigate not only the Ghab, but also the Acharneh plain—a total area of 65,000 hectares. However, of this area, 22,000 hectares are now irrigated by pump. The permanently submerged part of the Ghab—some 29,000 hectares—belongs in the public domain and will after reclamation be available for distribution among settlers drawn from landless or virtually landless peasants in nearby areas.

The cost of the project was originally estimated at £S 136.5 million including £S 8.5 million for interest during construction, £S 38.2 million for a main road through the Ghab and £S 2.65 million for the construction of a central village. A recent special study sponsored by the International Bank indicates, however, that this estimate will probably have to be increased to about £S 171 million. Because of the numerous works which must be constructed in successive stages, the whole project is unlikely to be completed before 1965. As the drainage works progress, however, new land, totaling 10,000 hectares by 1960, will gradually become available for cultivation. The first stage of the construction work—the lowering of the sill—was begun in the latter part of 1954.

Other Irrigation Projects[8]

In selecting other irrigation projects which might be carried out over the next five or six years, the mission was beset by many difficulties. With one exception, all the projects considered were only in the conceptual stage. Exact data on the areas which might be irrigated by each project, or on the quality of the soils of the irrigable land, were for the most part unavailable. With one exception, detailed planning of the various projects had not been undertaken. 312 653

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[7] See Annex D, p. 327.

[8] See Annex D, p. 330.

Nevertheless, the mission believes it necessary to recommend a tentative program subject to alteration upon the completion of more detailed studies. In selecting projects for inclusion in this program the mission has taken into account not only the indicated relationship of cost and benefits, but also the location of the projects and the relative needs of various parts of the country.

1 EUPHRATES VALLEY SCHEME

The Euphrates river undoubtedly offers the greatest possibility of extending the irrigated area in Syria. At present, however, a considerable amount of water is already used for pump irrigation; if much more is to be withdrawn it will be necessary not only to reach an agreement with Iraq regarding the division of the water but also to provide facilities for the storage of water during the flood season. A project for a storage dam at Youssef Pasha has already been worked out; this would increase the minimum flow of the Euphrates during the dry season from about 300 cubic meters per second (m 3/sec) to around 400 m 3/sec. With a long canal starting from the dam it may be possible to irrigate about 185,000 hectares of the so-called Raqqa plateau on the left bank of the river and approximately 54,000 hectares in the Resafe area on the right bank. In addition, the construction of a diversion weir at the Halabiye gorge between Raqqa and Deir ez Zor would probably permit the irrigation of 165,000 hectares farther down in the Euphrates valley. Of the total area thus to be irrigated by projects dependent on the Youssef Pasha dam—404,000 hectares—over one-third or approximately 152,000 hectares are already irrigated by private pumps.

For a number of reasons the mission has reluctantly concluded that this entire group of projects should be deferred until after 1960. First of all, the capital investment required is very large and the benefits will not accrue for a long time. The Youssef Pasha dam itself would cost £S 150 million and the irrigation works would entail an additional outlay of probably £S 560 million. The dam could hardly be completed before 1963, and the construction of all the irrigation works would probably take longer even if it proceeded simultaneously. The financing of the Euphrates and Ghab projects at one and the same time would impose an excessive

3/12 burden on the resources available to the government; and it would require
653 substantial expenditures over a long period without an attendant increase in production, thus leading to inflationary pressures.

The second reason for deferring the Euphrates projects is the fact that much preparatory work must in any event be undertaken before they can be launched. Estimates of the areas that can feasibly be irrigated must, for example, remain largely conjectural until topographic and soil surveys and land classification can be undertaken. Plans for the irrigation systems should not be drawn up until experiments are carried out to determine the proper irrigation duty (i.e., water to be used per hectare) in the light of soil conditions and projected cropping patterns. While plans for the Youssef Pasha dam have already been drawn up, additional borings to explore the foundation conditions of the dam are still necessary. The mission recommends that all this preparatory work be undertaken over the next few years and it has included £S 3 million in the program for this purpose. Meanwhile the government should also seek to reach an agreement with Iraq regarding the allocation of the Euphrates water.

2 RECOMMENDED PROJECTS

The mission would perhaps be more favorably inclined toward an early start on the Euphrates projects if there were no other possibilities of expanding the irrigated area. But there are a number of small projects which can be undertaken at a lower cost and can be completed more rapidly. After considering the various possibilities, the mission recommends that the following schemes be carried out in the years 1955-60:

Project and location	Estimated cost (in million £S)	Area to be irrigated (in thousand hectares) Total	Newly irrigated	Already irrigated
Mzerib, in the Hauran	8	4.6	4.6	0
Nahr el Kebir, in Latakia	15	4.0	3.5	0.5
Barada, near Damascus	30	15.0	15.0	0
El Taf, on the Khabour	30	ca.20.0	ca.10.0	ca.10.0
Total	83	43.6	33.1	10.5

The first of these is really an extension of the existing Mzerib project 312 and calls for the irrigation by pump of 4,500 hectares with water from the 653 springs at the headwaters of the Yarmuk. It is the only project ready for immediate execution and has the advantage of extending the irrigated area in a province which suffers from a chronic shortage of water.

The Nahr el Kebir project is included despite its rather high cost because it is a multiple-purpose project with diverse benefits. It involves the construction of a storage dam on the Nahr el Kebir, which will not only serve irrigation but also control periodic floods and supply water and power to the growing port city of Latakia.

The Barada river project entails the construction of two dams—one at Hameh and the other farther upstream near Makaren—to provide water for both power and irrigation. This scheme appears particularly attractive because it would permit the irrigation of 15,000 hectares of good land in the vicinity of Damascus, an area of dense population, and would help to meet the growing power needs of the nation's capital.

The El Taf project requires the construction of an earth fill dam across the Khabour river on the site of an old Roman dam. The water thus diverted might irrigate about 10,000-15,000 hectares on the right bank, and 6,000 hectares on the left bank of El Taf river. The land in this area is rather good but cultivable only if irrigated. While there are other possible projects on the Khabour, the mission considers all of them less promising. Farthest upstream and south of Ras el Ain, some 20,000 hectares could be irrigated, but this is in an area of relatively abundant rainfall where winter crops can be grown without irrigation and where landowners are already installing pumps at their own cost for summer irrigation. The Saba Skour project, 12 kilometers downstream from Hassetche, could irrigate about 15,000 hectares, but the dam which would have to be constructed would flood a considerable area of rich alluvial land now under cultivation. Farther downstream from El Taf, additional irrigation would probably be feasible only if the limited supply of water available in the Khabour during the dry season were supplemented by storage during the flood season. The only possible site for a storage dam appears to be at Markada; but a dam in this location would have to be very long and would provide only a very shallow reservoir with attendant dangers of excessive evaporation and silting. The feasibility of the Markada dam should first be carefully investigated.

If the new projects recommended above are carried out and those now

312 under way are completed, Syria would have under irrigation an area of
653 89,100 hectares additional to that already irrigated. Certain projects, including the Ghab, Barada and El Taf, will, of course, not be completed in the period 1955-60 covered by the mission's suggested program. Under that program, the total newly irrigated area will have increased by about 40,000 hectares by the end of 1960.

Planning of Irrigation Schemes

312 The planning, construction, maintenance and operation of all irriga-
653 tion projects (except the Ghab for which a special office has been created)
647 is the responsibility of the Hydraulics Branch of the Ministry of Public Works. At present the staffing of this branch is far from adequate to carry out a greatly expanded program. While the technical staff is supposed to number 78, including 19 engineers, the number actually employed is only 36, of which 11 are engineers. Temporary appointees totalling 23 bridge only part of the gap. The staff must ultimately be greatly expanded. It will take time, however, to train additional technicians; and the goal will never be reached unless the present inadequate salary scale is raised so as to attract competent recruits. Meanwhile, the Ministry will be unable to carry out the suggested irrigation program unless it utilizes every opportunity to delegate the planning and execution of projects to properly qualified private firms.

In discussing the Euphrates projects, the mission has already emphasized the importance of adequate planning and recommended the allocation of £S 3 million for the necessary preparatory work. Part of this sum should be used for the construction of a hydraulics laboratory which would be useful in testing models of all proposed irrigation structures. Through model testing it will be possible properly to design such structures as weirs, canal intakes and sluices so as to anticipate subsequent damage and to achieve maximum economies in construction. It would also be highly desirable to experiment with different types of canal linings. The concrete linings used up to the present are expensive and not wholly satisfactory. It may be possible to use the asphalt available in Syria to devise a lining which would neither crack nor be too fluid and would at the same time be more economical. The mission urges that a qualified foreign firm be engaged to make laboratory tests with this material under conditions simulating those in Syria.

Recovery of Costs

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The capital cost of irrigation and reclamation schemes can and should 652 be recovered from the beneficiaries. In principle it makes little difference how these costs are recovered—whether through sales of government-owned land that is reclaimed or irrigated, through improvement levies on newly irrigated privately owned land, through irrigation dues, or through a combination of any of these. The state should, however, appropriate most of the benefits for the community at large and to this end impose levies on the direct beneficiaries proportionate to the benefits derived. This is not only socially equitable but it enables the government to recover the cost as rapidly as possible and thus acquire the means to undertake additional projects. The direct beneficiaries must, of course, be allowed to retain some of the benefit, but there is no justification for allowing private landowners whose land is irrigated by the government to enjoy a windfall or for settling farmers on newly irrigated or reclaimed land on terms which enable them to live on a standard far exceeding that of their counterparts elsewhere in the country.

In the past the government has sought to recover the cost through 651 irrigation dues. In 1953 the government collected on this account £S 473,000, which left a margin of £S 268,000 over the amount appropriated to maintain existing irrigation schemes. Early in 1954 the government introduced a new scale of charges increasing progressively with the size of the landholding. The prospective yield of these charges is difficult to assess. While the scale takes into account differences in the benefits accruing from various schemes, the mission considers that the fees instituted for the Tell Maghass, Mzerib and El Senn projects, while higher than those in others, are still rather low in proportion to the benefits enjoyed by cultivators and landowners. A review of these charges therefore appears desirable. If and when the government adopts the mission's recommendation for a progressive land tax, the progressive feature of the irrigation charges may also have to be modified.

Maintenance

Adequate provision for maintenance of irrigation schemes after completion is, of course, essential. Current appropriations for maintenance appear rather low. In 1954 they were raised to £S 350,000 from a total of

312 652 £S 205,000 the year before, but even this amount provides only a little over £S 7 per hectare. The mission suggests that the maintenance allowance be increased gradually to £S 10 per hectare.

Water Conservation

312 While new irrigation schemes must obviously be carried out, it is also important that measures be taken to ensure that the limited supply of water available on existing irrigated areas is used to maximum advantage. Much water is being wasted because of inadequate knowledge of irrigation techniques and of the water requirements of various crops in different parts of the country. The mission has already pointed to the necessity of undertaking certain experiments to determine the appropriate irrigation duty as part of the preparatory work for the Euphrates irrigation projects. Quite apart from this, the Ministry of Agriculture in cooperation with the irrigation service should launch a series of experiments to determine the appropriate irrigation duty and irrigation techniques in areas which are already being irrigated. Such experiments, for instance, might well show that furrow irrigation makes better use of the available water supply than the customary basin irrigation. Demonstrations in water conservation might also be usefully undertaken. The mission has noted, for example, that improved levelling of land would produce a much more economical distribution of water. It is also evident that farmers in many places can be assisted in initiating small irrigation schemes of their own by storing runoff water in simply constructed catchment basins. To start work along these lines, the mission recommends a total expenditure of £S 1.2 million in the period 1956-60.

Proposed Outlays

312 652 The commitments already undertaken by the government and the additional recommendations made by the mission would entail a very large increase in expenditures on irrigation and reclamation. The cost of the proposed program is shown in Table 5. The mission firmly believes that the projected outlays are necessary and can easily be justified by the increase in production that will be achieved.

TABLE 5 Expenditures on Irrigation and Reclamation, 1950–60

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(Thousand £S)

	Past outlays			Future outlays	
	1950–52 average	1953 estimate	1954 estimate	1955–60 total	Annual average
Projects—total	2,368[a]	3,130[a]	3,380[a]	197,000	32,833
Completion of works	—	—	—	9,000	1,500
Ghab	—	—	—	102,000[b]	17,000
Other new works	—	—	—	83,000	13,833
Euphrates valley studies	—	—	—	3,000	500
Maintenance	113	205	350	3,000	500
Research and demonstration	—	—	—	1,200	200
Grand total	2,481	3,335	3,730	201,200	33,533

[a] Budgetary and extrabudgetary expenditures. The 1954 total excludes an £S 5 million authorization for the Ghab of which probably only a negligible portion was spent.

[b] After allowance for receipts from sale of land and water.

III LAND POLICIES AND LAND SETTLEMENT[9]

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A fuller knowledge of the available land resources is essential not only to plan better utilization of land already under exploitation, but also to determine how much land remains for expansion of cultivation and what must be done to make it productive. Even the existing pattern of land utilization is hardly known. Data on the total cultivated area, on the acreage planted to individual crops and on production are at best only rough estimates which are often quite wide of the mark. Little is known as yet about various types of soils, their deficiencies and potentialities. Widely varying opinions are expressed regarding the area which can still be put to the plow or can be irrigated by gravity flow.

Aerial Survey Program

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Aerial photography can be of great assistance in planning land utilization and public works of importance to agriculture. Up to the present it

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[9] See Annex E, p. 351.

311 69 has been used in Syria to obtain topographic data necessary for certain irrigation projects and, in formulating an accelerated program for a cadastral survey of the Jezireh in 1952, the government provided for a photographic survey of this entire region. An aerial survey of all of Syria except waste desert areas would no doubt be desirable, but the mission realizes that financial considerations make a more limited objective necessary. For the period ending in 1960 the mission suggests accordingly that the following areas be surveyed (see Map 5):

1. An area of about 2,250 square kilometers in the provinces of Latakia and Aleppo.

The purpose would be to facilitate (1) a delimitation and assessment of the forest area in Latakia which constitutes the most important timber resource of the country, (2) the location of an appropriate dam site on the Nahr el Kebir, and (3) the planning of irrigation for the Roudj.

For nearly the entire area mapping on a scale of 1:20,000 with 5-meter contours would be sufficient, but for the Roudj and the area of the dam site mapping at 1:5,000 with 1-meter contours would be necessary.

2. An area of approximately 7,000 square kilometers east of the Aleppo-Hama-Homs-Damascus highway.

Here the object would be to determine what part of this area might be still available for cultivation. At present conflicting opinions are held regarding the potentialities of the area.

Aerial photography, coupled with the preparation of a controlled photomosaic, would suffice.

3. An area of about 4,600 square kilometers north of Raqqa and extending to the Turkish frontier.

This area is also claimed to contain much unutilized but cultivable land. Aerial photography would permit a rapid delimitation and analysis of the area in relation to the land already under cultivation.

4. An area of approximately 6,000 square kilometers in the Euphrates valley region, comprising the Raqqa and Resafe plains and extending to the Halibiye-Zalebiye gorge.

This survey, as already indicated, is an essential part of the planning work for the irrigation system dependent on the projected Youssef Pasha reservoir.

Mapping at a scale of 1:20,000 with 2-meter contours would suffice for

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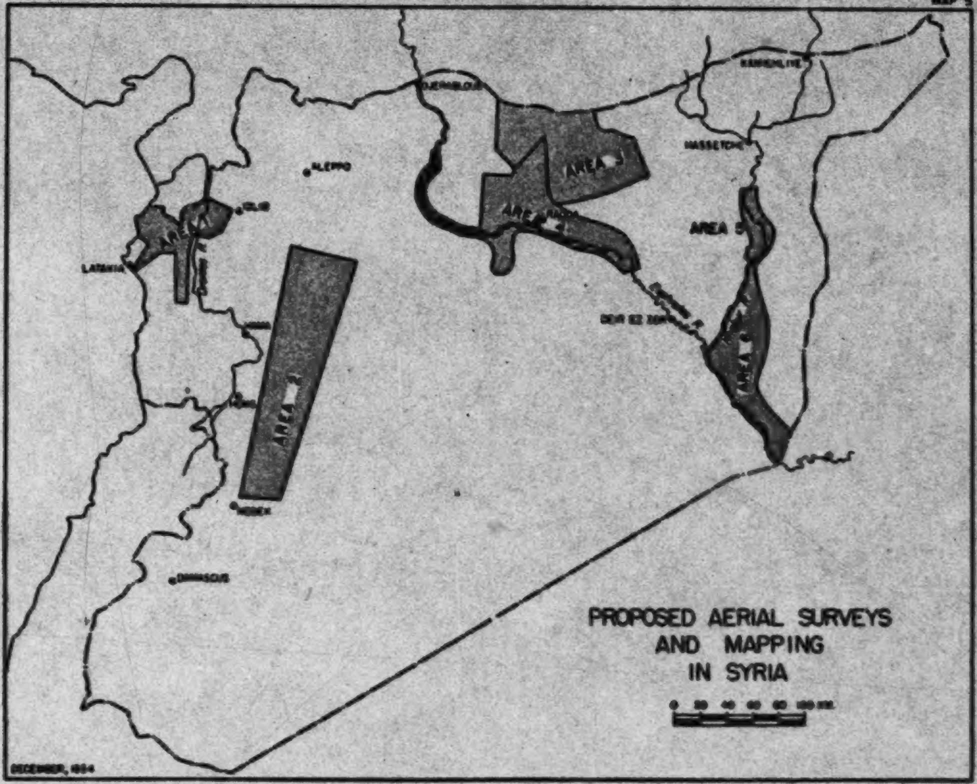
MAP 5
KAMECHLIYE
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LATAKIA
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AREA 6
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PROPOSED AERIAL SURVEYS
AND MAPPING
IN SYRIA

DECEMBER, 1954

311 most of the region; a scale of 1:10,000 with 2-meter contours for a narrow
654 band running along the Euphrates; and a scale of 1:5,000 with identical contours for the area immediately around the gorge.

5. An area of about 970 square kilometers in the Khabour river valley upstream from Markada.

   Aerial photography is already covered by an existing contract. Mapping is necessary to facilitate irrigation planning and to investigate the possibility of a dam at Markada. Mapping on a scale of 1:20,000 with 2-meter contours would be sufficient except for the proposed dam site where the scale would need to be 1:5,000.

6. An area of some 3,400 square kilometers on the left banks of the Khabour and Euphrates rivers.

   Mapping of this area on a scale of 1:20,000 with 2-meter contours appears necessary to determine the possibilities of gravity irrigation and to expedite needed soil surveys.

These surveys, which together would cost approximately £S 4 million, would cover most of the land potentially available for cultivation and the greater part of the irrigable area.

Soil Surveys

654 The aerial reconnaissance the mission has suggested would greatly
134 expedite the soil survey already started under the direction of an FAO specialist. Soils can be classified into broad types on the basis of aerial photographs. With additional work on the ground it is possible to proceed to more detailed agrogeological soil mapping, which is necessary to determine how the land already under cultivation can better be employed and how land still unoccupied can best be utilized. This type of mapping is now being undertaken for the Jezireh as an adjunct to the cadastral survey. While all the detailed soil mapping required can obviously not be completed in a few years, the mission urges that the present soil survey be expedited and broadened. A soils department with a budget of £S 60,000 for 1954 has been established in the Ministry of Agriculture. Its budget will have to be raised to at least £S 100,000. The work on soils should concentrate primarily on areas which will or can be opened to settlement such as the Ghab, the Roudj and certain rainfed regions. From

time to time, however, spot analysis will also be required to carry out 654
special programs to improve soil fertility. 134

Cadastral Survey

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Aerial photography should assist considerably in accelerating the cadastral survey work which was first initiated in 1923 but was still only 45% completed by the beginning of 1953. It is clearly in Syria's interest to finish the cadaster as soon as possible so that the uncertainty surrounding private property rights may be ended at long last and the extent of state domain may be clearly determined. Similarly, it is necessary to expedite the lagging program for converting *mucha'a* or village common land to individual peasant ownership. Experience with the accelerated survey for the Jezireh indicates the need for additional measures to speed up the work. This survey, originally scheduled for completion in the spring of 1955, is now unlikely to be finished before the end of 1956. Insufficient funds, shortages of trained personnel and cumbersome procedures have all contributed to delay this vital survey work. The mission urges that all possible measures to expedite the program be taken. Among the measures that might be considered are the contracting of necessary ground surveys to qualified private firms; the delimitation of properties in certain areas solely by means of aerial photographs rather than by ground surveys; and the possibility of shortcuts in the protracted legal procedures involved in the determination of titles.

State Domain

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The aerial, cadastral and soil surveys outlined above will for the first time provide the government with approximately accurate information on the area and quality of state domain. At present the government claims ownership of 1,417,571 hectares of allegedly cultivable land of which 551,473 are leased for cultivation. This total, however, excludes the unoccupied or "dead" land (*mawat*) which was assimilated to state domain by Legislative Decree No. 135 of October 29, 1952. Nor does it include the land which may be "recaptured" by the state under other provisions of the same decree. For instance, this decree specified that prior occupation of land which had not yet been sanctioned by the acquisition of title would be recognized only up to 200 hectares per member of the occupier's

471 immediate family. It also provided that in adjudicating title deeds in
423 which the area derived from the indicated boundaries of the property was greater than the area mentioned in the deed, the boundaries would govern at least to the extent that they gave each member of the titleholder's family a minimum of 200 hectares. The mission urges that these provisions, which have apparently not yet been applied, be enforced as rapidly as possible. Their application would inflict no undue hardship, and would increase significantly the amount of revenue-earning state domain. Above all, it would put at the government's disposal more good land to be retained as a reserve for the ultimate settlement of landless or virtually landless peasants. Much of the land now left to the state is too marginal for successful settlement.

471 Careful management of state domain is necessary to ensure that the
423 state derives from it the maximum revenue and that land not really
427 suitable for cultivation is reserved for pasture or forest. The government is not equipped at present to exercise adequate supervision. Land is often tilled without authorization, thus depriving the government of revenue and often encouraging the cultivation of land which can be expected to produce a satisfactory harvest only in years of exceptionally high rainfall. Until cultivable land is required for settlement, it should be leased, as at present, to private operators who have the necessary machinery to till it. Thus land in the Jezireh which is recaptured under the provisions of Legislative Decree No. 135 might well be leased to those who now cultivate it, so that existing units of exploitation are not disturbed until the land is needed for distribution. However, current rentals for state land, even though they have been rising in recent years, still seem unduly low. Judging from private rental arrangements prevailing in the Jezireh, for example, the state should be able to charge an average rental of at least £S 5-6 per hectare instead of only a little over £S 3 as at present. In this way the government can add to the funds available for financing development.

Forestry and State Domain

137 The management of state domain should look also to the preservation
659 and improvement of forest areas on government land. Syria has unfortunately been almost entirely denuded of forests. Although some 448,000 hectares are listed officially as "forest", 348,000 hectares consist either of

wholly barren land or of range land with arboreous shrubs. Of the balance probably only about 60,000 hectares can be characterized as more or less dense forest. 137 659

The mission has already recommended an aerial survey of the forest areas in the province of Latakia. This would be a first step in the appraisal of existing resources and the delimitation and protection of forest reserves. An FAO specialist has for some time been advising the government on a forestry program. The mission can only recommend that action along the lines which he has proposed be undertaken as soon as possible. Any program should focus in the first instance on safeguarding forest areas against uncontrolled cutting, shifting cultivation, excessive grazing, fire, insects, erosion and other hazards which have inflicted considerable damage in the past. A more effective forestry law which was drafted by a committee in 1953 should be promptly enacted for this purpose. To protect the forests and supervise their exploitation a field service of four foresters and 42 rangers should be built up by 1960. The necessary forest rangers will have to be trained either at a secondary forestry school which may be established in cooperation with the FAO to serve the countries in the Near East or at a special training school which might be added to the existing Bugua Agricultural School near Latakia. Within the Ministry of Agriculture a staff of five foresters and 10 rangers should be available to direct the necessary survey, research and reforestation work; and two foresters will be necessary to supervise forest nurseries. 137 659 313

Once adequate protection of forests has been established, reforestation can proceed. The three existing nurseries and two new ones recently established should be able to produce about 3 million seedlings yearly. The mission considers it important, however, that government nurseries be also in a position to supply trees for planting in farming areas. Although such trees as poplars are extensively grown as cash crops in certain irrigated regions, most farming areas are virtually treeless. The planting of a belt of trees around new village settlements should be an integral part of any settlement program. Farmers should be assisted to establish their own wood lots and to plant trees along roads. This would help to meet the acute shortage of timber for fuel and building, provide some protection against wind and make settlements more attractive. The mission therefore suggests that five additional small nurseries be established, particularly in the provinces of Jezireh and Euphrates, to supply trees for such purposes.

137 459 313 To meet the cost of this program over the next five or six years the mission suggests that additional funds of £S 500,000 be made available to the forestry service.

Settlement of State Domain

429 166 The employment of state land for the establishment of peasant proprietors is already declared government policy. Article 22 of the 1950 constitution stipulates that "The State shall distribute among landless peasants, at a small cost to be paid by instalments, sufficient land to secure their livelihood"; and decrees issued by the Minister of Agriculture on November 1, 1952 and January 15, 1953, provide for the sale of government land in parcels of 50 or 10 hectares, depending on whether the land is irrigated.

The immediate need for settlement arises from certain localized population pressures and from the growing desire of the Bedouins to adopt agriculture. [161] Population pressures are most marked in the provinces of Latakia and Djebel Druze where, according to rough estimates, the amount of cultivated land available per person is less than 50% and a little over 60%, respectively, of the average for Syria as a whole. The reclaimed land in the Ghab and the Roudj should help in particular to relieve the overcrowding among the agricultural population of the Alaouit mountains in Latakia. According to the Ministry of the Interior, the Bedouins number about 150,000, half of whom, however, are said already to be engaged in some form of settled agriculture. Many Bedouins apparently tend to squat on unoccupied land which they cultivate more or less sporadically and often with extremely poor results. For them the availability of good land in such a province as the Jezireh is of paramount concern.

433 166 241 The mission has given special attention to the problems involved in settling reclaimed and irrigated areas and of undertaking certain experimental settlements in dry-farming regions. The government has not yet drawn up settlement plans for the Ghab and the Roudj, although this task is becoming urgent, particularly for the latter. For the settlement of the Bedouins certain initial steps have been taken. The government has set aside and divided into allotments 100,000 hectares in the Radd area of the Jezireh and is in the process of dividing another area of 50,000 hectares in the same province. Part of the first area has already been allocated to Bedouins but is being leased to large operators for three years in order to

build up a sufficient fund to finance the actual settlement. The mission 423
did not obtain sufficient information on these plans to appraise their 166
soundness, but suggests that they be reviewed in the light of the considerations that should, in its opinion, govern such settlements. 241

The amount of land to be allocated per farm family in any settlement must depend on the yield of the land and the capacity of the cultivator to till it. The prospective yield must be such as to enable the farmer to earn a decent living without, however, being so high as to create inequities. The size of the allotment must not exceed that which the cultivator can manage with the labor of his own family and with the equipment at his disposal. For irrigated areas the appropriate allotment would be 5-10 hectares where land is good to average. In areas adjoining urban markets where intensive cultivation of vegetables is possible, the allotment could be below 5 hectares; and in areas where the soil is rather poor, more than 10 hectares may be necessary. Settlements for Bedouins in dry-farming areas should be organized on the assumption of 50 hectares per family. The mission believes, however, that it would be unwise to allocate all this land at once, since no family could be expected to cultivate such a large parcel. The initial allocation should be about 25-30 hectares, and even of this a part might be put into improved pasture instead of being cropped. The balance might then be put into a reserve which would be used for grazing and be available for allotment to farmers who show themselves especially capable, or to new families in the settlement. Such a pattern will make it easier for the Bedouin to accomplish the transition to settled agriculture, by enabling him to carry on his customary pastoral pursuits as he crops his land.

The land would have to be tilled with draft animals and the necessary supplemental tools, but a special effort must be made to provide the settler with more adequate draft animals and better equipment than are customarily employed. While the use of mechanized equipment would in general be impracticable, the mission does recommend that one dry-farming community be organized on a mechanized basis. Such a community is suggested quite frankly as an experiment to test the possibilities of mechanical cultivation by smallholders. Ideally, the necessary tractors, implements and harvesting machinery should be owned and operated cooperatively. In the beginning, however, the settlers would hardly be prepared for such cooperative action. The mission suggests therefore that the government establish the necessary machinery unit under the direction

423 166 241 of a manager with experience in the operation and maintenance of mechanical equipment. In the first few years at least the services of this unit should be made available to cultivators at rates high enough to cover cost of amortization and operation. As and when the farmers acquire experience with machinery and develop a community spirit conducive to cooperative action, steps should be taken to transfer the equipment in whole or in part to cooperatives.

The government should utilize the opportunity afforded by such new settlements to raise the standard of agricultural practices above the average. A government agricultural worker or community leader should be assigned to each settlement. It cannot be expected, of course, that optimum farm practices will be adopted, particularly by Bedouin settlers. It is possible, however, to provide guidance and even, perhaps, to prescribe certain crop rotations. In the dry-farming communities wheat will obviously be the principal crop, but winter vetch and such legumes as lentils, chick peas and soya beans should also be part of the cropping scheme. From 5 to 10 hectares might be left fallow each year. Another 5-10 hectares of each farmer's allotment might well be put into approved pasture. Each settler should be provided with about 60 sheep which should give a return nearly equal to that derived from crops. For the irrigated areas much more intensive cultivation, with a minimum of fallow, should of course be envisaged. The emphasis should be on such summer crops as cotton, sugar beets, peanuts, maize, beans and vegetables grown in proper rotation. Here the use of fertilizers and insecticides will have to be especially encouraged. A few cattle should be kept on the basis of the fodder provided by some of the suggested crops.

423 166 241 361 Each settlement should be small enough so that the remotest farm would be no farther than an hour's walk from the village, and large enough to warrant the establishment of minimum community services such as a well, a mosque or church, a school and a community center. The first consideration is important only in determining the size of a dry-farming settlement and would point to a settlement with an area no larger than about 5,500 hectares. On such a dry-farming area 120 families, including 10 non-farming families, could be settled initially; and the total might ultimately be about double if the land first held in reserve as pasture were subsequently allocated to new families. Even a settlement of 120 families, with a total population of 600-720, could support minimum community facilities. For the irrigated areas, where land allotments would

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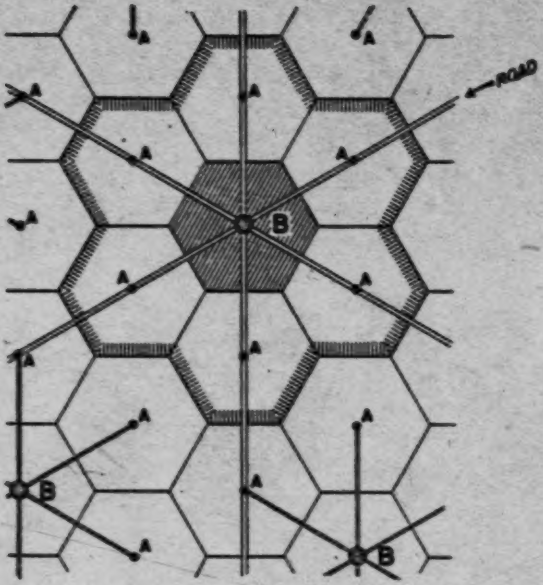
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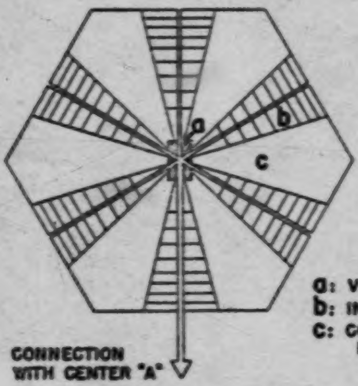
DIAGRAM 1
SCHEMATIC RELATIONSHIP OF DRY-FARMING COMMUNITIES


a
b
c
CONNECTION WITH CENTER "A"

a: VILLAGE
b: INDIVIDUAL FARMS
c: COMMUNITY LAND FOR GRAZING

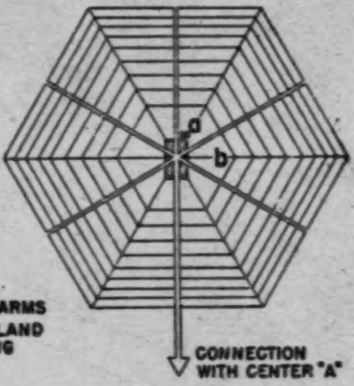

a
b
CONNECTION WITH CENTER "A"

DIAGRAM 2
LAYOUT OF COMMUNITY "B"
(20 Hectare Farms)

DIAGRAM 3
LAYOUT OF COMMUNITY "B"
(50 Hectare Farms)

p. 61

423 be much smaller, the minimum size of a community might be raised to
166 around 300 families, including some 30 non-farming families. Such a larger
244 community would economize capital invested in common services. Even
361 on irrigated land, however, circumstances might dictate the establishment
of a smaller community with a provision for subsequent growth if the
potentialities of the land warrant it.

A settlement should be laid out in such a way as to make access to farm land convenient and to fit into adjoining settlements of a similar type. For the dry-farming area settlement units shaped like hexagons would in principle be ideal. (See Diagrams 1-3.) In such a unit the farms could be laid out at an angle to six roads radiating from the center and parallel to the sides of the hexagon. Between the farms radiating from the roads the land initially reserved as common pasture would be located. One of the six roads would link the settlement with other communities. A number of hexagonal settlements would fit well together. It must be recognized, however, that modifications in this basic hexagonal unit will often be necessary, owing to marked variations in the quality of the soil or the topography, the relationship of the area to existing settlements and other factors. (For examples, see Diagrams 4-6.) In the irrigated regions the shape of the settlement will be largely determined by the layout of the irrigation system, so that the hexagon may well have to yield to the square as the more practical form.

In areas where a number of settlements are established the relationship of the new communities to each other and to existing settlements in adjoining areas must be carefully considered. For the Roudj, for example, the mission would suggest the establishment of about five communities, of which four would be purely agricultural and one would serve also as a minor marketing and administrative center and therefore be somewhat larger. (See Map 6.) A major center need not be envisaged in view of the proximity of the towns of Idlib and Jisr ech Chogour. For the more extensive region of the Ghab a similiar pattern can be contemplated; and the planning will need to be based on the assumption that Jisr ech Chogour, situated at the northern end of the area, will become the regional marketing and administrative center.

The mission strongly recommends the village-type of settlement. Any other type which would house the settlers on their own farms would not only be contrary to tradition, but would be destructive of community life and make it difficult to supply the needed community services. The village

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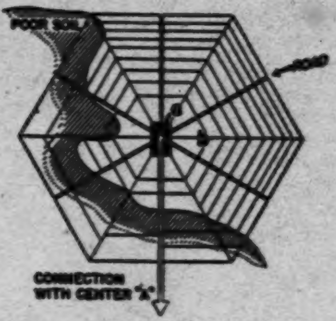

POOR SOIL
ROAD
a
b
CONNECTION
WITH CENTER "A"

DIAGRAM 4
ALTERATION OF FARM DIVISIONS IN THE CASE OF VARIATIONS IN THE QUALITIES OF SOIL

a: VILLAGE
b: INDIVIDUAL FARMING
C: IRRIGATED AREA

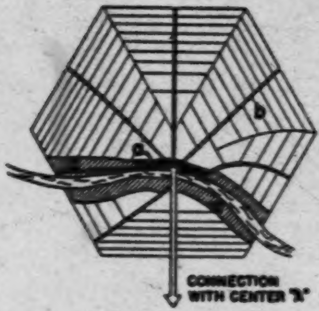

a
b
CONNECTION
WITH CENTER "A"

DIAGRAM 5
LAYOUT OF COMMUNITY WITH STREAM

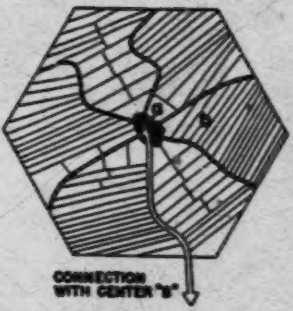
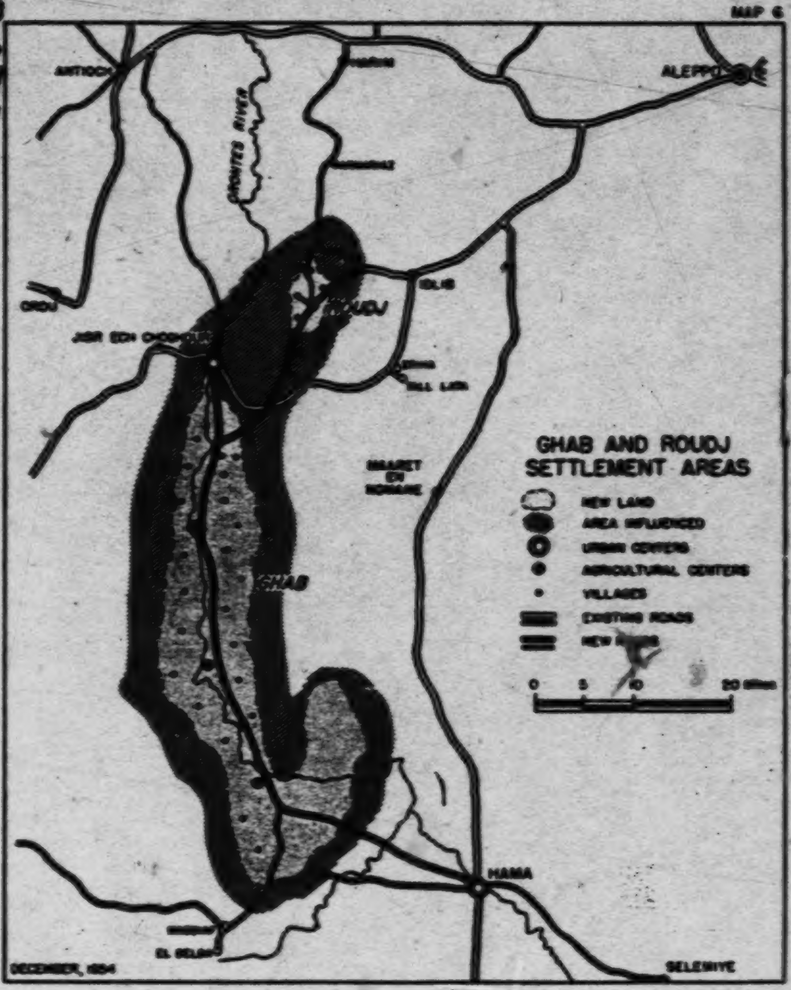

a
b
CONNECTION
WITH CENTER "B"

DIAGRAM 6
LAYOUT OF COMMUNITY WITH DIFFERENT TOPOGRAPHIC CONTOURS

429
166
241
861


MAP 6
ANTIOCH
ALEPPO
ORONTES RIVER
ORDU
JISR ECH CHOGHOUR
ROUDJ
IDLIB
TALL
MAARET EN NOMANE
GHAB
HAMA
EL
SELEMIYE
DECEMBER, 1954
GHAB AND ROUDJ SETTLEMENT AREAS
NEW LAND
AREA INFLUENCED
URBAN CENTERS
AGRICULTURAL CENTERS
VILLAGES
EXISTING ROADS
NEW ROADS
0
5
10
20 Miles

p. 64

1123 should be located in the center of the settlement area and laid out along a
166 rectangular pattern with the community facilities and open public places
244 in the middle. It would be desirable to have the village surrounded by a
561 small garden area and a belt of trees.

The settlement must, of course, be considered "model", but not in the sense that its standards and costs are so high as to render its general adoption prohibitively expensive. The settlers should be expected to contribute their own labor to its initial construction and the subsequent gradual expansion and improvement of its facilities. This will help to reduce costs and give the settlers a sense of pride and achievement in the establishment of the community. For example, the ultimate aim might be to provide a farm family with a 5-room house (3 main rooms, kitchen and laundry-lavatory), enclosed courtyard, storehouse and stables.[10] Initially, however, it would suffice to provide a 2-room unit without some of the elements in the final building. The cost could thus be kept to about £S 1,500, to which the settler might contribute £S 800 in the form of properly supervised self-help. Each farm family will need, however, a minimum sustenance allowance of approximately £S 1,000 to tide it over the first year when the community is in the course of construction and little is produced. Such an allowance should be paid out in the form of compensation for labor services provided by the settlers.

The mission has estimated the cash investment outlay in the different types of settlements as follows (in Syrian pounds):

	Dry farming settlement (120 families)		Irrigated area settlement (310 families)
	Non-mechanized	Mechanized	
Housing for farm families	77,000	77,000	191,100
Housing and shops for non-farm families	20,000	20,000	67,000
Community facilities[a]	71,000	71,000	182,000
Draft power, livestock and implements	318,000	514,000[b]	341,250
Sustenance allowance	110,000	110,000	273,000
Total	596,000	792,000	1,054,350

[a] Including schools, mosques (or churches), community centers, water supply and roads.
[b] Including £S 250,000 for mechanized equipment.

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[10] See Annex I, p. 468.

423 The mission suggests that the state Agricultural Bank finance the housing
166 and means of production (other than mechanized equipment) under
241 loans to be amortized over a 10-year and three- to four-year period respec-
361 tively. The government itself should be responsible for providing the funds necessary for community facilities, mechanized equipment and payment of the sustenance allowance.

423 The mission's calculations indicate that the average farm family should
166 be able to earn a net annual income of around £S 2,000 in the dry-farming
241 communities and of over £S 3,000 in the irrigated-area communities even during the period when loans are being repaid. This should leave a small margin for the payment for land in the dry-farming areas and a substantial margin for the necessary payments for land and water in the irrigated areas. The mission believes it a sound principle to require some payment even for non-irrigated state domain. The price of land, however, should be such that the settler can expect to become a full owner within a reasonable period, e.g., no more than 10 to 15 years.

Certain conditions will need to be enforced in settling peasants on the land. For example, title should not be transferred until all payments have been completed, and in the intervening period the government should reserve the right to remove settlers who prove to be clearly unsuitable or do not till their own land. Even after title has been transferred, the government might well retain for a specified period the right to veto all proposed sales, mortgages or leases, in order to safeguard the fundamental objective of establishing and maintaining independent peasant proprietors.

During the next five years the government will have to undertake the settlement of the Roudj and a portion of the Ghab. For the settlement of Bedouins the mission recommends the establishment of two experimental dry-farming communities, one of which would be mechanized, in the Jezireh. The mission must emphasize, however, that the latter two experiments are bound to fail unless the government allocates to them good land situated in a region with adequate rainfall. Both the Roudj and the Jezireh projects will provide much valuable experience useful in extending the settlement effort. In addition the government might well undertake one project in the Djebel es Smaane northwest of Aleppo and another in the Djebel Druze. The ruins of many once imposing cities testify that the first region flourished from the first to the seventh century of the Christian era, and recent evidence indicates that this prosperity was primarily founded on orchards and vineyards. More recently people have been

returning to become squatters among the ruins and cultivate patches of 423
stony but fertile soil. Organization of this rather haphazard settlement 166
and the establishment of a planned community based again on orchards 241
and vineyards may prove a worthwhile undertaking. In the Djebel Druze, where living standards are low and emigration is difficult for religious reasons, a similar settlement should be tried, provided a suitable tract of land can be found. Here, too, conditions are favorable for the establishment of orchards and vineyards.

At present responsibility for settlement is dispersed. The Ghab Administration 423
is entrusted with settlement in the Ghab; the Irrigation Service 166
has the task in other newly reclaimed and irrigated areas; and the 647
Ministry of Agriculture has the initiative for the dry-farming areas. The mission strongly recommends that responsibility for planning and coordinating all the work be vested in a single, independent Settlements Administration, which would also discharge certain governmental functions relating to housing, town planning and similar subjects. The settlement program will require a great organizational effort and a staff which only a single agency would be capable of mobilizing. One administration is also much more likely to apply the experience gained in the initial settlement work to subsequent ventures. The mission urges that such an
agency be established promptly, so that the necessary planning may be 7
immediately initiated. The assistance of a number of foreign experts will need to be enlisted to carry out the program.

If the four settlements the mission has recommended are established and the Roudj and a portion of the Ghab are settled, the total cost would probably be around £S 10 million. Under the mission's proposals, £S 5.5 million would be financed by the Agricultural Bank, and the balance met directly by the government. With these funds it should be possible to settle some 2,300 families or between 12,000 and 14,000 people.

Land Reform

While the settlement of state domain may gradually increase the number 423
of peasant proprietors, Syria will also have to work out policies relating 425
to land ownership and tenancy in the areas already under cultivation. In this connection it should be noted that Article 22 of the 1950 constitution calls for legislation to determine, without retroactive effect, "the maximum area of land that may be owned, exploited and disposed of, according to

423 districts"; to provide for the forfeiture of land "neglected for a period of
425 time"; to encourage "small and medium properties"; and "to protect the peasant and raise his standard of living".

In recent years several countries have taken steps to break up large estates and distribute them among landless tenants. Where large estates are farmed in small plots by tenants operating with rather primitive methods, the economic advantages resulting from well-managed large-scale exploitation certainly do not accrue. On the contrary, farming by impoverished tenants may be regarded as a social liability and an actual or potential cause of discontent. In the last analysis only the Syrian people acting through their government are competent to determine what course to pursue regarding large landholdings. The mission would only point out that expropriation on a considerable scale would entail large outlays for compensation and would be more disruptive than constructive unless adequate measures were simultaneously taken to provide new peasant owners with sufficient supplies of seed, draft animals and tools and to guide them in their agricultural practices. Where labor is scarce and land is cultivated on a large scale by machinery, as in the Jezireh, expropriation would manifestly serve no useful purpose and would result, instead, in a substantial reduction in output.

There are, however, certain measures the mission would recommend for serious consideration. One would be to prevent aggravation of the problem by enacting legislation to prohibit individual families who already own a certain amount of land—say, 1,000 hectares—from increasing their holdings still further. Another would be to enforce, as a minimum, the existing legislation, which provides that land not tilled for five years should revert to the state. In cases where land is utilized or exploited in a manner which is not in accordance with the standards prevailing in Syria, the
423 government would be justified in depriving the owner of his land. Finally,
651 the mission suggests that the larger landowners should be more heavily taxed in the interest of raising more money for development and of promoting greater social equity. Income derived from agriculture does not fall at present under any of the existing schedular income taxes. Instead, most agricultural produce brought to market is taxed at 7%. While this tax does not bear heavily on peasants who produce primarily for their own consumption, it is not progressive in its application to landowners or pump owners who sell their share of the output on the market. The mission sug-

gests, therefore, that this tax be complemented by a new land tax. The rate 423
of such a tax should increase with the size of landholdings, and small 651
holdings should be entirely exempt. The rates must also be in accordance with the yield of the land, but the mission suggests that they be kept rather low (e.g., not more than £S 2-3 per hectare on the average) so that a detailed, complex classification of land in accordance with productivity may be avoided. In another section of this report the mission proposes that the present schedular income taxes be supplemented by a global income tax levied at a moderate rate. In our opinion, income from agriculture should be included in the scope of such a global tax. The ascertainment of income from land is by no means as difficult as is generally supposed.

In addition to taking these steps, the government should pay special 427
attention to the improvement of the lot of tenant farmers. In general, measures should be adopted to increase the tenant's share of the output, to give him greater security of tenure and to make him less dependent on the landlord as a source of credit and supplies.

The economic bargaining power of the landlord vis-à-vis the tenant and of the pump owner vis-à-vis the cultivator is so great that the landlord and pump owner obtain a rather excessive share of the output of the land. It would be desirable to establish a commission to study the various forms of association in the exploitation of agricultural land which prevail in different parts of Syria and to make recommendations designed not only to make these arrangements more equitable but also to put them on a basis which would give the actual cultivator of the land more incentive to improve his agricultural methods. Such a commission could work out the terms of written contracts which would be applicable to various types of association. It could also devise ways of giving greater security of tenure to the tenants. The latter can generally be ousted at will by landlords and the land they receive for cultivation is so frequently reallotted that they acquire no interest in its permanent improvement. Finally, it would be appropriate to consider the establishment of local land tenure commissions to settle, in a manner comparable to settlement of labor conflicts, disputes among the parties sharing in the exploitation of the land.

A number of measures to foster cooperatives, provide more ample credit 474
and establish machinery for assisting the farmer at the village level are recommended elsewhere in this report. It is important that these measures

474 focus not only on the farmer-owner, but also on the tenant, for only in that way can the latter's economic bargaining power be strengthened and his independence and security enhanced.

IV IMPROVEMENT OF PRODUCTION

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483 The mission approaches a discussion of this subject with some diffidence. Generalities are difficult to avoid. It is easy to point out deficiencies in agricultural practices, but much more difficult to suggest a concrete and practicable program to improve them. Effective action is made difficult by the ignorance and inherent conservatism of farmers. It requires a larger, better trained and better organized government service to carry out the necessary trials and experiments and to work with farmers at the village level. Obviously, no miraculous increase in productivity can be expected within a short time.

Nevertheless, the subject is too important to neglect. In too many countries the undeniable difficulty of carrying out a program to raise yields has caused governments to shrink from such an undertaking. We have already indicated why much more attention must be paid to this problem in Syria. Although land in Syria is more plentiful than in many other Asiatic countries, the population pressure on good land is bound to grow. If the country is to support an increasing population on higher living standards, the task of obtaining more output from cultivated land cannot be postponed.

The mission can only point out some of the potentialities and indicate in a rather general way how they might be realized. More detailed programs must be worked out by the Ministry of Agriculture with the help of the FAO or other sources of technical assistance.

Crop Rotation and Diversification

Improvement in existing patterns of crop rotation is one of the most important methods of improving the fertility and structure of the soil and permitting a gradual diminution in the use of fallow. The aim should be to reduce customary fallow in the rainfed areas by at least 50% and to the greatest extent practicable in the irrigated areas. The much more extensive use of leguminous plants for both winter and summer cultivation would help to remedy existing deficiencies in nitrogen and supply either nutritious fodder for livestock or material for green manuring to build up the depleted humus in the soil.

At present no legumes other than winter vetch and berseem are grown on a large scale during the winter season. While lentils, beans and peas are cultivated as cash crops in the Hauran and regions around Damascus and Aleppo, the value of legumes for fodder and pasture is not appreciated. A considerable number of leguminous plants which have not been cultivated in Syria, at least on any considerable scale, might well be introduced and tested.[11]

Aside from these legumes, other crops might well be tried out for inclusion in the rotation system so as to provide more diversified production. Among these are oil seeds such as the sunflower, linseed and sesame. The mission also recommends experiments with safflower, a plant which grows well under dry climatic conditions and in soils of moderate fertility.

The mission recommends that experiments be undertaken to determine the best rotation schemes for both irrigated and non-irrigated land in different parts of the country; and it suggests that £S 1 million be made available to defray the cost over the next five or six years. A substantial part of this should be used to finance trials on selected, strategically located farms, especially to provide free seed and instruction to farmers willing and able to try changes in crop rotation which experimentation has indicated as advantageous.

We realize that the adoption of crop rotation plans designed to reduce fallow significantly will by no means be easy. There will be limitations set by the availability of manpower, draft animals and machinery, and water. Legumes, however, can often be interplanted with cereals; and ways and means can probably be found to fit new crops into the rotation scheme at a time when they will not compete with the principal crops for the cultivator's time and equipment, or, in irrigated areas, for the available water. If additional implements or draft power are needed, they may be acquired, provided better credit facilities are established. Since additional resources are no doubt required to keep more land cropped, the economics of new rotation plans will have to be carefully worked out in the course of the proposed experiments and trials.

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[11] See Annex C, p. 309, for specific suggestions.

Fertilizers, Insecticides and Weedicides

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433 In increasing fertility, the more extensive use of fertilizer can be an important supplement to, but never a complete substitute for, better crop rotation. The most serious deficiency in Syrian soils is nitrogen, and though phosphorous is present the alkalinity of the soil often makes it less available as a plant nutrient. The use of ammonium sulphate, or anhydrous ammonia, and superphosphates could undoubtedly raise yields significantly. At present only modest quantities of fertilizers are applied in the Ghouta and in the cotton-growing regions. It is idle, however, to expect a rapid expansion in the employment of fertilizers; and a program to encourage their promiscuous use might well do more harm than good. The response to fertilizer depends very largely on appropriate timing of its application, the availability of water and other factors. A number of experimental stations in Syria have been carrying out experiments on nitrogen deficiency. The mission suggests that this program be expanded and supplemented by field trials on selected farms in various parts of Syria. The fertilizer for these field trials should be made available free or at nominal cost over a period of years sufficient to permit adequate testing. The mission recommends that a sum of £S 500,000 be made available for this purpose over the next five or six years.

The use of insecticides and pesticides has been almost entirely confined to cotton, and even for cotton they were applied extensively only in 1952 when dusting was made compulsory. Regular spraying and dusting of cotton and orchard crops should particularly be encouraged. A program of education and demonstration, combined with credit facilities for the acquisition of equipment and materials, is clearly necessary. Experiments should also be undertaken with modern weedicides, for there is little doubt that weeds at present greatly detract from yields.

If the use of fertilizers and insecticides is to be promoted, the cost should be reduced as far as possible. At present fertilizers are largely imported in the form of pre-mixed compounds containing a high proportion of carrier material readily found in Syria, and similarly, in the case of insecticides, essential ingredients account for only a small percentage of the volume imported. The mission suggests, therefore, that the possibility of lowering costs by establishing a plant for mixing fertilizers and making insecticides from imported ingredients should be explored.

Implements and Machinery

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In Syria there is an enormous gulf between the employment of modern tractors and combines in certain areas and the use of the traditional peasant plow or *feddan* and hand-harvesting and threshing methods elsewhere. The tractor can undoubtedly do a far better job of cultivation. It breaks the hard soil pan so as to facilitate deeper penetration of roots and moisture, and it promotes seed germination by more effective pulverization of the soil. It is equally obvious that combines produce a cleaner grain with less waste than the traditional process of having animals trample the grain and winnowing the resulting product by hand.

The development of Syria's agriculture, however, hardly depends on the rapid expansion of mechanized farming. The use of mechanized equipment can be recommended only where labor is relatively scarce or where units of exploitation are large, as is the case in the Jezireh. Small farmers cannot afford costly, modern machinery. Cooperative ownership and operation of such machinery may ultimately be undertaken, and the mission does suggest, as indicated previously, that an experiment along this line be carried out. It can hardly be expected, however, that this type of cooperative, which is among the most difficult to manage, will spread rapidly in the future.

Far more important and urgent is the task of improving and supplementing the poor implements which the peasants now have at their disposal. They should not have to rely almost wholly on the *feddan* which barely scratches the soil and leaves perennial weeds to compete with crops for the limited supply of soil nutrients. The farmer should have a better plow, supplemented by a cultivator or spike-tooth harrow; a simple seed drill that might permit him to get better yields by sowing in rows instead of by broadcasting; pedal threshing equipment and a hand-operated winnower that would enable him to produce a cleaner grain with less effort; and a simple leveller that would help him to level his land and avoid waste of rain or irrigation water.

Programs to improve and develop implements for the small farmer have been successfully initiated in a number of countries such as India and Afghanistan. The mission strongly recommends that such a program be undertaken promptly in Syria. It would propose establishment of a small implement center in cooperation with the FAO or other technical assistance agencies. This center should be equipped with a shop in which

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prototypes of useful implements would be made. These prototypes should then be distributed for supervised testing among selected farmers and arrangements would have to be made for the production of those found successful. Such a program need not be expensive. The mission estimates the capital cost at about £S 150,000 and recurring annual expenditures at not more than £S 100,000.

The problems of mechanized cultivation should not, of course, be neglected. Already an estimated total of 750,000 hectares is tilled by mechanical means. Over 1,300 tractors and 500 combines are being used today, primarily in the Jezireh but also, increasingly, around Aleppo. Mechanical farming is handicapped, however, by the high cost of fuel; lack of sufficient skilled labor to operate, maintain and repair machinery; inadequate repair facilities; excessive cost and, sometimes, deficient supplies of spare parts; insufficient knowledge of the suitability and capability of different types of equipment; and the utilization of too many kinds of machinery. Standards of maintenance are extremely low and repairs much too costly. The abuse of machinery greatly shortens its life. In the Jezireh, major repair facilities exist only in Kamichliye, and only two dealers have their own service stations. All these factors make mechanical farming excessively expensive. In the last two years, profits have seriously diminished as cereal prices declined and costs remained fixed. A reduction of costs is particularly necessary since the mechanically operated farms now contribute the bulk of Syria's exports of cereals.

Better transport facilities will do more than anything else to lower fuel costs. To deal with the other cost factors, a number of measures can be recommended. First of all, machinery dealers should be allowed to operate only if they abide by defined limitations on the price mark-up on machinery and spare parts; maintain prescribed minimum supplies of spare parts; and undertake to operate service and repair facilities in such centers as Kamichliye and Aleppo. Certain reputable dealers have declared to the mission their willingness to adhere to such qualifications, which have proved useful also in other countries. Secondly, the mission urges that short-term courses in the selection, operation and maintenance of farm machinery be organized at Kamichliye and Aleppo. Such courses should be conducted in the agricultural "dead season" and separately for owners and operators. The first should be instructed in the performance and capability of different types of equipment, in the supervision of operation and maintenance, and in the simple economics of mechanical farming; and

the latter should be taught elementary principles of repair and mainte- 433
nance. The courses for field operators and mechanics might well include 211
some in-service training in repair shops. The cooperation of reputable 407
dealers in organizing such courses should be enlisted. Finally, the mission proposes the establishment of a secondary agricultural school in Kamichliye to specialize in problems of agricultural engineering. Facilities for instruction in this subject should also be provided at the existing school in Aleppo. The mission envisages an expenditure of £S 2 million for such school facilities. The short-term courses could probably be made self-supporting. To initiate and help carry out this program, the mission suggests that the government obtain the services of one or two machinery experts through the FAO.

Cereals

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Aside from the measures outlined above, programs to raise the yield of certain crops must be undertaken. For cereals the development of higher yielding and more disease-resistant strains is of paramount importance. Although many varieties of wheat and barley are grown in Syria, little is known about their comparative worth. A large number of the more promising foreign wheat and barley strains have recently been imported for testing, but the funds, staff and facilities for an adequate testing program are largely lacking. The mission accordingly recommends that the Ministry of Agriculture be enabled to carry out a program for testing, selecting and propagating high-yielding and disease-resistant seed.[12] Since the shortage of trained Syrians may continue for some time, it is likely that the program will have to be handled by a foreign staff (FAO; the French Technical Assistance Mission in Syria). The staff should include a director in charge of planning, three plant breeders and a plant pathologist. They should be assisted by a staff of about 30 Syrians who will largely have to be trained for this purpose. The mission estimates the cost of such a program at about £S 4.5 million over the next five or six years.

For wheat and barley the aim should be to develop good varieties which mature early and can therefore be harvested before the extreme heat. For rice, which will undoubtedly be cultivated in larger volume as the irrigated area expands, the aim should rather be to develop slow-

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[12] See Annex C, p. 304, for year-by-year recommendations.

243 433 maturing varieties to replace the praecox strains currently used. The high day and comparatively low night temperatures in Syria are more suitable to slow-maturing rice varieties. For maize it is especially important to test and select appropriate hybrid strains. In Syria maize yields are only about 1.3 tons per hectare while in the United States hybrid maize yields about 4.4 tons. With the introduction of high-yielding hybrid strains, the production of maize should definitely be encouraged since it fits well into the crop rotation scheme, is rather heat resistant and can provide not only grain but also fodder and silage.

Once suitable seed strains have been selected by testing, arrangements should be made with farmers in various parts of Syria for the propagation of such strains under proper supervision. These farms could serve at the same time as demonstration centers. The seed thus propagated should be certified and made available for distribution through licensed dealers, cooperatives and Chambers of Agriculture.

Cotton[13]

248 433 The government already has a praiseworthy program for the improvement of cotton cultivation. The disastrous failure of the cotton harvest in 1951, caused by the rather reckless expansion of cotton acreage and an uncontrolled invasion of destructive insects, brought in its train a number of corrective measures. The government regulated cotton acreage by licensing, and specified the time of planting. Controls over the treatment and distribution of seed were established. Even dusting and spraying were prescribed in 1952. Variety tests have also been conducted, and as a result Coker Wilt, a high-yielding strain, is now predominantly cultivated in Syria. A Cotton Office, staffed largely with Egyptian experts, has been charged with the improvement of cotton production. This entire program should be further expanded as more Syrian technical personnel become available. The mission suggests, for instance, that a special station be established for cotton breeding and insect control. More attention should be paid to cultural practices. Yields can be raised by reducing the danger of pests through rigorous cleaning of cotton fields following the harvest and destruction of host plants; by closer planting to discourage excessive vegetative growth and to promote earlier maturity; and by applying fertilizers at appropriate times.

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[13] See Annex C, p. 305.

Sugar Beet[14]

Sugar beet, though introduced only recently, is becoming an increasingly important crop. The sugar factory established in Homs has brought in seed from the Netherlands and Germany and distributed it to farmers. The reclamation and irrigation of the Roudj and the Ghab will undoubtedly give a great fillip to sugar beet cultivation and raise average yields, for beets do best on irrigated land. At present yields are still disappointingly low compared to those achieved in Western Europe and the United States. The mission suggests that efforts be particularly devoted to selecting a series of varieties with a wide range in maturity, so that the operating season at the Homs factory can be considerably prolonged. In the Euphrates and Khabour river valleys there are areas suitable for beet cultivation which can obviously not be served by the Homs plant. Ultimately the establishment of additional factories in these areas may prove worthwhile. Although the cost of producing beet sugar in Syria is undoubtedly higher than the cost of importing raw sugar (which is principally if not wholly cane sugar), the cultivation of beets has beneficial effects on the soil which appear to warrant its encouragement.

Tobacco

Tobacco is a minor crop, though important as a source of government revenue and of farm income in the province of Latakia, where it is predominantly grown. It is one of the crops, however, which is most in need of improvement. Seed selection, curing and grading all leave much to be desired. The entire plant, rather than selected leaves, is often harvested at one time. The Tobacco Monopoly, which licenses the growers, has paid little attention to the improvement of methods. The mission suggests that the Monopoly devote an additional sum of at least £S 75,000 annually to this purpose. At present three varieties of tobacco are grown: Abou Riha, the so-called "Latakia tobacco," which is bought almost entirely by a single American cigarette manufacturer for blending; Chek-el-Bint, used in the manufacture of Syrian cigarettes; and Tombac, produced for water-pipe smoking. In view of the rather uncertain market for Abou Riha, it would appear wise to develop the production of high-aromatic tobacco of the Turkish or Macedonian type for which a more durable market seems

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[14] See Annex C, p. 308.

249 433 assured. The possibility of growing Virginia-type tobaccos should also be explored.

Orchards and Vineyards

245 433 Vineyards and orchard crops such as olives, nuts, apricots and other fruits already make an important contribution to agricultural income. Both the quality and the yield could be substantially raised by proper insect control, the use of fertilizers and tracer elements, and better pruning. Many existing orchards need rejuvenation. Heavy frosts in 1949-50 severely damaged olive orchards around Aleppo, so that Syria is now on a net import basis for olive oil. Establishment of vineyards and orchards in the Djebel Druze would help materially to raise the present low level of income in that region. In Latakia province the cultivation of citrus could be significantly increased. The availability of ample long-term credit at low interest rates is especially important for an expansion and rejuvenation of orchards and vineyards.

Vegetables

244 433 Vegetable growing in wide variety is concentrated in and around the larger population centers. The fact that so little is grown and consumed in the rural areas is due mainly to the fact that neither the small farmer nor the majority of consumers yet knows the value of a balanced diet; on the contrary, both hold vegetable cultivation in low esteem. Education and guidance centered upon the establishment of school gardens might do much to change this attitude.

The significant quantity of vegetables at present used by the local canning industry could easily be doubled though, as the canners explained to the mission, the poor quality of vegetables in general, and of peas and beans in particular, tends to limit the quantity suitable for processing. Better seed, improved cultural practices and adequate insect control measures could contribute greatly to higher quality and quantity. Improved transport, storage and marketing facilities should be included in community and cooperative development schemes, thus opening up possibilities for more exports and a very substantial increase in the activity of the local canning industry which at present produces about 4,000 tons of canned goods.

In view of the desirability of increasing the role of vegetables in the Syrian diet and of their potential as a domestic and export cash crop, governmental stimulus would be of great benefit. 244 433

v ANIMAL HUSBANDRY

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The problem of raising the production and quality of livestock has been comparatively neglected. Inadequate nutrition, high incidence of disease and mortality, and poor breeding all depress livestock yields far below what they should be. Livestock now accounts for less than 20% of the total contribution made by agriculture and animal husbandry to national income. This contribution to national income could undoubtedly be raised substantially because the possibilities for improvement in animal husbandry practices are vast and the demand for livestock products both at home and abroad is likely to increase more than proportionately as standards of living rise.

Better nutrition, control of disease and breeding are all necessary. Of the three, improvement in nutrition is by far the most important. Irrespective of breed, an animal will not be productive unless it is well fed. In fact the genetic factors in any breed cannot be fully developed and appraised unless nutrition is adequate. Similarly, low nutritional standards inevitably lower the resistance of livestock to disease and limit the effectiveness of control measures.

Migratory Livestock

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Over 80% of the livestock other than fowl consist of sheep and goats, and most of these are taken by Bedouins on annual migrations into the Syrian desert or steppe for grazing. The available vegetation is sparse and of short duration. As is usual under desert or semi-desert conditions, there is generally overgrazing in the areas close to permanent water supplies, and the poorer the season—in terms of rainfall—the heavier will be the concentration on such areas. During severe winters when winter growth ceases at an early stage and when the herbage may be destroyed by early frosts, there is a high mortality rate from the combined effects of malnutrition, helminthiasis and exposure.

It has been suggested that much of the mortality could be avoided by

233 the provision at permanent watering points of shelters, together with a reserve of feeding stuffs. The provision of such shelters may, however, involve the authorities in difficulties caused by undue concentration of stock at these watering points in bad seasons, as well as in possible complications arising from competition for the food and shelter. Shelter and rations could not be provided for more than 20-30 days, and the transport of stock feeds for even this short period might be exceedingly difficult. Although shelter and feeding during such a period would no doubt stave off the peak mortality that is likely to occur in spells of unusually severe weather, it would contribute little or nothing toward a solution of the basic problem, to restore to health and good physical condition flocks that have become so debilitated through malnutrition and an increasing worm burden that they are killed off in spectacular fashion by a short spell of severe weather.

The gravest difficulty is the failure of winter grazing, which may be due to a variety of causes: shortage of early winter rains, paucity of growth because of persistent low temperatures, or actual destruction of young herbage by frost. This leads to malnutrition, which in turn allows a rapid build-up of worm burdens—a build-up which is again accelerated by heavy concentration of flocks in the few better areas.

In the circumstances, it seems likely that a more practical approach to the problem would be to provide stocks of feeding stuffs at centers convenient to the farms, where the sheep summer. Flockowners would then be urged to return their sheep to the farms as soon as it became apparent that the grazing had failed, and before the sheep had lost too much condition. Once back on the farms they could be fed on concentrates, supplied by government at favorable rates, supplemented by whatever crop residues may be available as roughage. Straws, dried sugar-beet pulp, bran, coarse grains, cotton seed and cake, can all be made available in an emergency such as is envisaged, and the veterinary service could take in hand mass treatment of flocks to reduce the worm count, and perform whatever immunizations may be necessary.

Elsewhere in this report it is stated that at least a third of the arable land lies fallow each year and that animal manure is almost wholly used as fuel. It is more than possible that the introduction of the practice of returning the sheep in an emergency for winter feeding on the farms may lead eventually to the growing of winter fodder crops, such as berseem, on land that would otherwise be idle. Several cuttings of berseem or lucerne could be taken during an average mild winter; if conditions in the desert were good enough to afford adequate keep for the lambing flocks, the berseem crop from the earlier cuttings could be dried, but it would be an advantage to graze off the final crop with stock.

Once farmers become accustomed to a rotation that includes the provision of stock feed and manuring of land through grazing of fodder by sheep (a system particularly suited to maintaining fertility on light wheat and barley lands), then they are well on the way to a balanced system of agriculture, and improvement of livestock types can be pushed ahead rapidly.

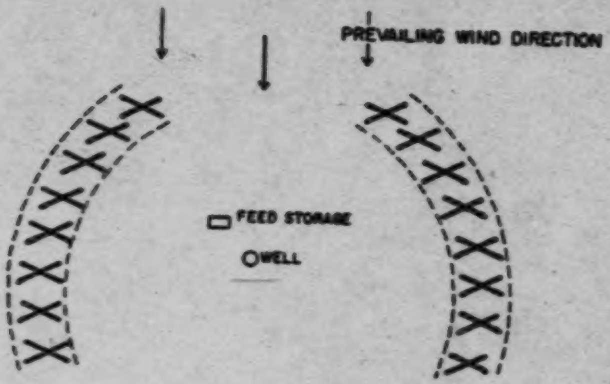
To return to the proposal for providing shelters and stocks of reserve foodstuffs in the desert, the mission suggests that the government might experiment by erecting a few such shelters in carefully selected areas, stocking them with food reserves of various kinds. The cost need not be prohibitive. A single shelter sufficient for 300-400 sheep can be built of stone walls shaped like an X, and will cost no more than £S 600. A number of these could be erected in a single location along two quarter circles situated to the left and right of the prevailing wind direction (see Diagram 7). Each group of shelters would be provided with a stock of foodstuffs consisting principally of grain straw mixed with some concentrates. Sheep would be fed for periods of 20-30 days only during exceptionally severe weather. On this basis the feeding and operational costs could probably be kept to £S 2.40 per sheep, of which the flockowner might be called upon to pay at least £S 1 per head.

The mission strongly recommends that both methods be given a thorough trial and that for this purpose up to £S 500,000 per annum be made available during the period 1955-1960.

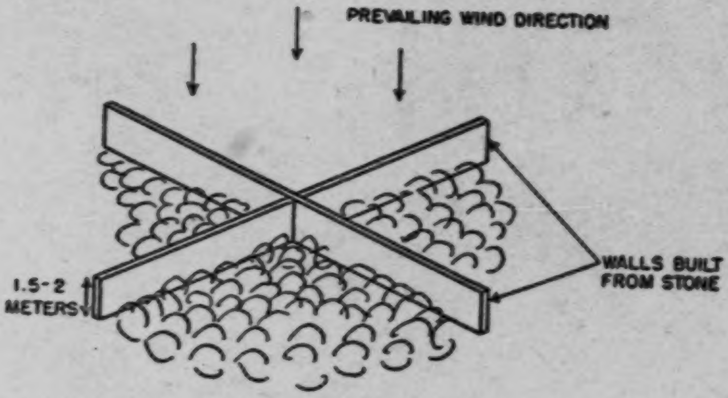
The provision of additional desert wells at carefully selected sites might be a means of reducing losses in dry seasons. The danger of course is that the provision of permanent water in areas that formerly could be grazed only in particularly favorable seasons may eliminate the very factor that has enabled these areas to retain a reasonable cover of vegetation, and in a few years the result may quite well be a very considerable total reduction in the keep provided. In this matter of utilizing more desert wells a better line may be to investigate the possibility of tapping underground water supplies that seem likely, with the aid of flood or stored surface water, to support small Bedouin settlements, each with a limited acreage of irrigation. Experience in Egypt shows how rapidly the fertility of irrigated

233 desert land may be built up, starting with groundnuts and going on to vegetables, citrus and grain. But there must be sufficient water, sufficient capital and sufficient determination.

PROPOSED LAYOUT OF DESERT SHELTER DIAGRAM 7


PREVAILING WIND DIRECTION
FEED STORAGE
WELL

SEMI-CIRCULAR GROUPING OF SHELTERS


PREVAILING WIND DIRECTION
WALLS BUILT FROM STONE
1.5-2 METERS

DETAIL OF SINGLE SHELTER

Any considerable increase in the number of wells should be made only after careful study of the grazing areas, and it is essential that there should be a simultaneous acceptance by the Bedouins of controlled grazing, e.g., a complete program of deferred rotational grazing which will allow areas to set seed in turn. Such a system of control can be based only upon thorough ecological survey of grazing areas, supported by experiments in grazing management, including the possibility of reseeding with types of perennial herbs and grasses which experience in Australia, South Africa, Morocco and Algeria has shown to be more or less winter-hardy and drought-resistant.[18]

Reseeding would not require plowing, but could be carried out by broadcasting the seed from a light truck or jeep immediately after the rains. During the next two years the yield of selected native and foreign grasses could be tested in small enclosed plots before reseeding operations are undertaken on any considerable scale.

It will be apparent that measures to improve the quality and carrying capacity of desert grazing must be based on actual experiment. The mission recommends that a thorough ecological survey of the desert steppe grazing areas be undertaken as soon as possible, concurrently with experiments on methods of management. It is understood that FAO will probably be assigning a part-time botanical ecologist who will concentrate on the grazing areas; in addition an ecologist will be working in the group of countries to which these problems are common. An FAO sheep specialist with considerable experience of grazing management may also be posted to Syria. It seems that sufficient specialist staff is likely to be available during the next few years to enable a vegetation map to be prepared and to supervise field experiments on the management of the various types of desert grazing. The mission recommends the expenditure of £S 200,000 in support of the program of investigation and in applying the results to selected areas.

The institution of any system of controlled grazing, the establishment of irrigated settlements, and even the protection of reseeded land until the new grass has become well established will present a problem in administrative control. Simple policing measures are likely to be ineffective, and it is essential that the full cooperation of the Bedouins be secured for these measures. A special effort should be made to persuade the leaders and subleaders of the tribes pasturing their flocks in these areas that the control measures are being exercised for the benefit of the Bedouins, and that it is accordingly in their own interest to ensure the success of the experiments. Probably the best method of approach would be the creation of local Bedouin authorities to supervise the measures.

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[18] See Annex C, p. 312.

Agriculture and Animal Husbandry

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In the long run it is the cultivated areas which will have to support more livestock. The expansion of crop land has progressively limited the area of natural grazing land, and increasing numbers of pastoral Bedouins are settling down to agricultural pursuits. Only cultivated land provides a large potential for increasing and improving the feed supply. At present, however, grain stubble and the grass and weeds which spring up on fallow land constitute virtually the only sources of feed for livestock in the cultivated regions. Only a very small area is in improved or "cultivated" pasture, and cropping for forage takes place only in certain limited areas. Hay and silage are not produced.

The objective must be to persuade farmers to grow feed for livestock by intercropping forage crops with cereals, putting part of their fallow into grass and legumes and converting marginal land into improved pasture. The conservation and storage of fodder must also be encouraged. A program with these objectives is, of course, bound to make very slow progress. Its feasibility must be demonstrated, and it will encounter much resistance on the part of farmers who adhere tenaciously to traditional practices.

The mission suggests, however, that a start in this direction be made over the next five or six years. For this reason the mission proposes that the government set aside about £S 500,000 over this period for an experimental demonstration program. Under this program farmers willing to try the establishment of pastures or the production of fodder crops would be given technical and financial assistance by the government. Financial assistance might be given in various forms. The government could supply all or part of the seed, help meet the cost of plowing, pay a small subsidy for the conversion of marginal land to pasture. The digging of trench silos can be performed by hand labor under supervision by the Ministry of Agriculture. Thus a number of experimental and demonstration projects might be established in different parts of Syria. The projects will no doubt reveal in time deficiencies as well as advantages in the light of which the approach and methods would have to be modified from time to time.

Veterinary Services[16]

Syria is fortunate in being free of the major animal plagues, but such 232 controllable conditions as helminthiasis and the pox diseases are allowed to take a heavy annual toll of sheep and goats, while Newcastle disease in poultry rages almost unchecked over the greater part of the country, in spite of the fact that the laboratory in Damascus can produce an almost unlimited supply of a completely efficacious freeze-dried vaccine at an exceedingly low cost.

It is true that until relatively recently difficulty was experienced in producing locally a satisfactory vaccine for the control of sheep-pox but these difficulties have now been overcome by the loan of FAO personnel; production capacity for sheep-pox vaccine is now sufficient for the annual vaccination of the entire sheep population.

A rising incidence of brucellosis and tuberculosis in cattle, particularly in the urban and suburban dairying herds, may give rise to serious losses unless checked in an early stage. The services of the expert in field diagnosis provided by FAO should be especially valuable in this connection.

The Veterinary Department of the Ministry of Agriculture employs 233 some 16 veterinarians, of whom five have been trained in Europe, four in 654 Turkey, and seven in Egypt. Of the 16, two are at Headquarters in Damascus, four at the school for veterinary assistants, one at the laboratory in Damascus, and nine at field stations. There are said to be about 10 training as veterinarians in Europe, America and Egypt. Experience elsewhere suggests that a fully-qualified professional staff of the present size, strengthened gradually by the accession of young graduates returning from overseas training, ought to provide disease control services adequate for Syria's needs during the next few years, particularly if full use is made of the veterinary assistants trained in the technical school at Damascus.

If the mission's proposals for a program of livestock improvement are adopted, animal diseases will assume a greater importance, since the improved stock is likely to be less tolerant than the low-producing Balady types. More emphasis will then have to be placed on disease control services, and the cadre of veterinarians in government employ will need to be enlarged.

At the present stage, indeed at any stage, quality is undoubtedly much more important than numbers. Professional qualifications of the present staff vary a great deal in standard, and an effort should be made to ensure that staff for replacement and further recruitment is trained to the highest professional standards overseas. The Department should review the position, scrutinize the academic careers of students now abroad, and offer scholarships for short periods, say one year, of postgraduate training in some particular field of activity that will be useful to the government on the candidate's return. This postgraduate training should be entirely practical and the scholar should not be allowed to utilize it mainly for the purpose of obtaining a further degree. Experience in the field, either in government service or in private practice, in some country of similar climatic and stock-raising conditions, but with a much more advanced livestock industry and a highly developed state veterinary service, would be the ideal type of training for such men. FAO would no doubt be able to arrange to place these men in countries suited to the purpose and might even be prepared to offer fellowships, upon condition that the recipient will return to government employment in Syria. The laboratory staff needs relatively little reinforcement at the professional level for the moment. The posting of one additional veterinarian with some overseas laboratory experience would be sufficient; it would be useful if this were done while the FAO experts are at the laboratory to pass on their practical experience.

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[16] See Annex C, p. 315.

The technical school for veterinary assistants in Damascus has been giving a two-year course of training in Arabic; it is likely that the course will be lengthened to three years. The school should turn out highly trained assistants whose employment in the Department should enable each government veterinarian considerably to extend his coverage in terms of both numbers of animals and territorial area.

Communications are generally poor and the inadequacy of transport has apparently been one of the greatest handicaps of the field service. It is essential that jeeps or pick-ups should be available in sufficient numbers to enable the veterinarian and his assistants to get round the district, to respond promptly to reports of outbreaks of disease and requests for assistance, and to perform systematic mass-vaccinations where appropriate. Government-owned transport is often unduly costly and inefficiently maintained; if this is true in Syria, consideration might be given to the hiring of transport on a contract basis or to payment of mileage to an officer providing his own transport.

The entire budget allocation for veterinary services in 1954 was £S 188,000, or approximately £S 11,750 for each veterinarian in the

Department, to cover all charges incidental to his activities, including the salaries of assistants and laborers, the provision of drugs, instruments and laboratory supplies, feed of animals, preparation of vaccines and sera. It is obvious that in relation to the environment the salaries paid to veterinarians are insufficient to attract and hold properly qualified intelligent men, and that the sum available to meet other expenses must be so inadequate that the professional man's abilities cannot be utilized to anything like their full extent. As a consequence in many cases there is a tendency to supplement the government income from commercial sources and eventually to regard the government post as part-time employment. 232, 654

The mission recommends that an additional £S 1.2 million be made available up to the end of 1960 to defray the cost of a veterinary service, improved and expanded on the lines that are broadly indicated here and in Annex C. It is strongly recommended that a small committee, to which ~~the FAO~~ veterinarians should be coopted, be appointed to consider methods of improving the service, with particular attention to salaries, better communications and transport, assistance adequate to permit of the carrying out of mass-vaccination campaigns against Newcastle disease of poultry, sheep-pox, and the control of helminths, etc., along the lines indicated in Annex C. Alternatively, the government might prefer to seek the services of an experienced veterinary administrator to inquire into these matters and make recommendations. Such an inquiry need not take more than perhaps three months. Staff meetings should be arranged and it would be a great advantage to hold at least one joint staff meeting with the services in Lebanon and Jordan. The measures should raise the morale of the service, which at present is regrettably low.

Breeding

The development of higher yielding types of livestock through selection and cross-breeding would be a great boon, assuming that it could be accomplished without sacrificing the hardiness under unfavorable conditions which much of the livestock in Syria has acquired, or that a parallel improvement were made in the environment of the animals. There are certain promising indigenous types which could be used as the starting point of a program to improve breeds. Among these are the Damascus dairy cow, the Julani beef cattle and the Damascus milk goat. Most of the sheep and goats are multi-purpose animals, raised for meat, milk, 232 wool or hair. Existing poultry breeds are largely nondescript and are 654 characterized by very low productivity.

To carry out experiments in breeding and animal husbandry, the government should push on with its program to establish a central livestock station near Damascus.[17] Within a few years two sub-stations might also be opened at Palmyra and Deir ez Zor, or at Hama, Selemiye or Raqqa There is unfortunately a shortage of Syrians trained in such work, and at the outset it would probably be necessary to employ a foreign farm manager. A minimum of £S 1.2 million will be needed over the next five or six years to meet the necessary costs.

For sheep, the aim should be to develop a more productive animal, and to test the feasibility of breeding more specialized types by successive top-crossing of selected indigenous animals with such imported breeds as Merinos and Merino-Fleisch. For cattle, the task would be to improve the existing Julani and Damascus types by progressive selection and perhaps by a certain amount of crossing with such imported pure breeds as Brown Swiss. In the case of poultry, which is so important to the small farmer, there might be a gradual introduction of exotic blood by the issue to farmers of cockerels of the chosen exotic breeds, raised in the government breeding farm. In this breeding program great care will have to be taken to maintain adequate records on the production and hardiness of successive generations. It will also have to be accompanied by good animal husbandry to bring out the full potentialities of each genetic strain.

VI CREDIT, COOPERATIVES, EDUCATION AND MARKETING

Agricultural Credit

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An adequate volume of credit on reasonable terms is in many respects the key to an improvement in agriculture and animal husbandry. Farmers must have the means to buy better tools, livestock and seed and to introduce new crops. If settled on new land they must be provided with housing and the capital necessary to start production. Both peasant proprietors and tenant farmers must be helped to emancipate themselves gradually from excessive reliance on non-institutional lenders such as landlords and merchants who often impose onerous terms and hold the whip hand over 451 their debtors.

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[17] See Annex C, p. 312.

The magnitude of the credit problem is not easy to assess. The amount of existing agricultural indebtedness is unknown and future credit needs are correspondingly difficult to estimate. The government would be well advised to carry out a study of the outstanding volume, source and terms of indebtedness in a number of agricultural areas in order to acquire more dependable data as a basis for future action.

Credit at present comes from three sources: the Agricultural Bank, a 452 government institution; the commercial banks; and landlords, merchants 453 and professional money-lenders. The Agricultural Bank provides loans at 6% up to a maximum of £S 7,500 per borrower. At the end of 1953 its outstanding loans amounted to £S 42 million. The average size of loans—£S 264—indicates how the Bank must disperse its limited resources. Since well over half of its assets are represented by long-term and medium-term loans and its lending resources have been increasing rather slowly, the Bank has been able to make new credit available only at an average annual rate of a little over £S 6 million over the four-year period 1950-1953.

A few of the commercial banks, principally the Banque de Syrie et du Liban, have made seasonal production credit available in recent years. Such loans are extended to larger farmers with a good credit standing for a maximum period of 100 days and at an interest rate of 6% to 7½%. The total amount thus made available is probably between £S 10 million and £S 15 million. The banks, however, also finance agriculture indirectly by extending credits to dealers in machinery and irrigation pumps who in turn finance purchasers of such equipment at interest rates of 9% to 12% or even more.

Most farmers can get credit only from non-institutional lenders. Interest rates charged by these vary widely but are often extremely burdensome, ranging as high as 50% to 100%. Even larger farmers often have to rely on such sources and pay as much as 12% to 18% interest. The small peasant proprietors and tenant farmers are generally the poorest credit risk and the most exploited and therefore pay the highest interest rates.

The great need today is for more institutional credit. The regular commercial banks may be expected in time to provide more financing for agriculture. When and if properly supervised grain storage facilities are established in accordance with the mission's recommendations, the banks

152 will be willing and able to lend to farmers on the security of warehouse
153 receipts. Thus within five or six years we may expect the volume of bank financing to rise to between £S 20 million and £S 25 million. Elsewhere the mission recommends the establishment of a predominantly privately-owned and entirely privately managed Investment Bank. Such a bank would not only invest in industry, but also make loans to farmers for the sinking of wells, the installation of irrigation pumps and the acquisition of machinery. Its lending to agriculture might reach £S 10 million, but its loans would presumably be made to the larger, more creditworthy farmers.

153 It is to the Agricultural Bank that most farmers must look for an expansion of institutional agricultural credit.[18] For this reason the mission strongly recommends that the existing capital and reserves of the Bank, amounting to £S 22.1 million at the end of 1953, be increased to £S 85 million. This should be accomplished by converting the Bank's indebtedness to the government and the government Cereals Office, totaling £S 12.4 million, into a permanent capital contribution and by making an additional government contribution of £S 50 million to the Bank's capital in installments over the next five years. If appropriate facilities for the rediscounting of the Bank's short-term paper are arranged with the projected Central Bank or, in the interim, with the Banque de Syrie et du Liban, the Agricultural Bank should be able to increase the volume of its outstanding loans up to between £S 120 million and £S 130 million. If the volume of lending by all institutions expands as indicated, it will then be possible to meet the increasing credit needs of Syrian agriculture and probably relieve at least to some extent the farmers' bondage to non-institutional lenders.

The Agricultural Bank should continue to cater primarily to the small farmers. Some limit on the size of individual loans should therefore be enforced, although the present limit of £S 7,500 might well be raised to around £S 10,000 to £S 15,000, with the proviso that total loans above a certain figure, say £S 5,000, shall be no greater than one-quarter to one-third of all loans outstanding. This limitation would not apply to loans to cooperatives, thus giving farmers an additional incentive to band together for such purposes as the installation of an irrigation pump or the sinking of a well, which might require a larger investment.

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[18] See Annex E, p. 340.

It should be emphasized that when the Agricultural Bank lends to cooperatives for re-lending to their members, it should accept as security the joint and several liability of the cooperative (i.e., the signatures of the Committee of the cooperative on the bond). The Bank should not demand mortgage security from the cooperative as a whole or from its members individually.

It is the mission's considered judgment that the present 6% interest rate charged by the Bank should be raised to 8%. The latter rate is not unreasonably high considering the cost of capital in Syria and particularly the much higher average cost of non-institutional credit. Such a rate would enable the Bank to increase its earnings and thereby its resources for future lending. Certain exceptions to this higher rate should in our opinion be made. As a special incentive, loans to cooperatives might be made at 6%. The mission also suggests a rate of 4% to 5% on certain long-term loans, such as those for the construction of farm dwellings and buildings, and for the establishment of orchards and vineyards where the yield is long deferred and investment might be discouraged by a high interest rate.

It is idle to expect that a substantial increase in the resources of the Bank will of itself solve the problem of agricultural credit. Much depends on the wisdom with which its resources are used and on the effectiveness of the organization and operating methods of the Bank. In the past the procedure for obtaining a loan from the Bank has been so cumbersome that borrowers have often preferred to pay a much higher price for credit from other sources. In the future the Bank's operations must be considerably more flexible. Lending in the past has been governed almost wholly by the availability of formal security in the form of a mortgage or joint guarantee. In the future the purpose of the loan should increasingly become the governing factor. The economic soundness of any loan must be determined primarily in the light of its impact on the production of the borrower. To be sure, some lending will always be needed to tide farmers over temporary difficulties due to harvest failures, physical disabilities or other causes beyond their control. In the long run, however, an increase in agricultural indebtedness will be warranted only if it is instrumental in raising the output of farmers in such a way that they will have an ample margin for repayment of their loans. For instance, institutional credit on reasonable terms can hardly replace non-institutional credit at usurious rates of interest unless the borrowers can at the same

463 time be made more creditworthy by ensuring that the proceeds of loans are really used to improve production.

Thus the Bank must work out with the farmer in the village the best application of credit.[19] What is needed is a system of supervised credit which will in effect combine lending with agricultural extension or educational work. For this task the Bank will need a staff of credit supervisors properly trained not only in credit techniques and problems, but also in agriculture, methods of cooperative organization and action among farmers, and similar subjects. The mission strongly urges that about 100 selected students at the secondary agricultural school at Kharabo be trained over the next five or six years as credit supervisors by adding another year of specialized instruction to the regular school course. In devising training courses and initiating the supervised government credit program the government might usefully enlist the cooperation of the Near East Foundation, which has acquired valuable experience in working with farmers in a number of villages. Limitations of staff will make it impossible to launch the program on a large scale at once. The work can begin in certain selected areas and then be extended as more staff becomes available and experience is acquired.

The credit supervisor would be an employee of the Bank but would act primarily as a counsellor to farmers. He would advise farmers on a program of improvement which would raise their output and therefore merit a credit. While he would not handle or process a loan application, he would facilitate access to the Bank in meritorious cases, and loans would be made in the area where he is active only on his recommendation. He should never prejudice his relations with the farmers by acting as a collector of loans. His concern would be primarily with the small farmers, particularly with those who organize themselves as cooperatives, or with individuals who are not creditworthy in the sense of being able to offer formal security for loans. In fact, a credit supervisor might usefully be attached to each cooperative to guide it in its early and most difficult years.

In its lending operations the Bank will frequently encounter cases where peasants labor under such a crushing debt burden that they have no hope of emancipation. Under such circumstances additional credits designed to improve the farmer's position become impossible unless the existing debt can be reduced to manageable proportions. The mission recommends 453 therefore that Syria enact legislation establishing procedures under which the Bank can obtain an amicable and, if necessary, a compulsory adjustment of past indebtedness as a prerequisite to the extension of fresh credit calculated to set the farmer on his feet. The legislation adopted in Cyprus on this subject is likely to provide valuable guidance.

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[19] See Annex E, p. 345.

To carry out this expanded credit program the management of the Bank must be strengthened as much as possible. Competent management can be secured only if salaries comparable with those paid in commercial banks are offered. The board of directors should be carefully chosen from among citizens who have a genuine interest in agricultural credit. The inclusion of a qualified commercial banker would provide the board with valuable experience even though an agricultural credit institution should obviously not be operated just like a commercial bank. For the supervised credit program and the work with cooperatives it will be desirable to obtain the services of an expert foreign adviser. The bank management should be largely autonomous and free to determine its own operating procedures.

Cooperatives[29] 474

The mission has already indicated its belief that cooperatives should become an important vehicle for the extension of credit to farmers. Unfortunately few cooperatives now exist. Although 28 are officially registered, the great majority of them manifestly exist only on paper. Yet there are instances of successful cooperative organization, such as the olive growers' cooperative at Tartous. Nor is interest wholly lacking among farmers. In the past a considerable number of villages have appealed in vain to the government for assistance in the formation of cooperatives. The work carried on by the Near East Foundation in certain villages indicates that farmers are quick to respond when the advantages of cooperative action are pointed out to them.

In principle cooperatives can become important agencies of self-help. They can stimulate the development of a democratic community spirit and a sense of self-reliance among peasants who now feel helpless and excessively dependent on the landlord, merchant and money-lender.

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[29] See Annex E, p. 348.

474 Farmers are often able to do collectively what they cannot accomplish as individuals. Cooperatively they can bring their products to the nearest market where they will fetch better prices, or sink a well and install a pump to provide irrigation on terms far more attractive than those imposed by a private pump owner. Collectively they can also get access to more credit and to some extent pool equipment such as dusters and sprayers which individual members cannot afford to own. Local roads can be built and other village improvements initiated by cooperative community action.

With the present level of social organization and education in the villages, however, it can hardly be expected that villagers themselves will generally take the initiative in forming cooperatives. Cooperatives must be encouraged, nurtured, guided and supervised by the government. In theory the government is in favor of cooperatives and has even accorded them sweeping tax exemptions. In practice, however, it has taken almost no action to encourage them and has on occasion even displayed a rather negative attitude. Only one officer in the Ministry of Agriculture is concerned full time with cooperatives. The basic statute governing cooperatives is needlessly complicated and must be virtually incomprehensible to farmers. The protracted consideration preceding registration of cooperatives appears to indicate a rather deep-seated distrust of cooperative action on the part of at least some government officials.

The first steps which must be taken are to simplify the cooperative statute and to organize and staff an adequate section in the Ministry of Agriculture to deal with cooperatives. Some of the personnel will no doubt require training abroad. The principal functions of this section would be to organize and guide cooperatives, train their leaders and managers and audit their accounts. The effective discharge of all of these functions is essential to the success of the cooperative movement. In the field work of organization and guidance the cooperative section could obtain considerable assistance from credit supervisors on the staff of the Agricultural Bank. Rapid progress, particularly in the initial years, cannot be expected, but the formation of a hundred cooperatives over the next five years might be set as the target. For this program the mission suggests a government allocation of £S 500,000. The FAO or some other agency should also be invited to provide technical assistance in training and getting the program off to a good start.

The type of cooperative most suitable for Syria is one that would discharge a number of closely related functions such as the purchase and sale 4¼ of farm supplies, the procurement and extension of credit and the marketing of farm products. The granting of loans and the sale of farm supplies are closely linked, and cooperative marketing would facilitate the collection of loans. For certain special functions such as irrigation, single-purpose cooperatives would be more appropriate. On balance the mission thinks it best that cooperatives be organized on the basis of unlimited liability, for only in this way will all the members have the greatest incentive to see that all the credit is effectively utilized and repaid. The mission has already indicated its view that cooperatives should be given credit at 6% rather than 8% interest. The cooperative's own lending, however, should be done at 8%, to provide a margin for meeting operating costs and building up reserves.

Agricultural Extension and Community Work[21]

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In most underdeveloped countries, programs to improve agricultural practices and yields founder because there is no organization and staff to work continuously with farmers, educating and assisting them and demonstrating to them the practical utility of better methods and techniques. In Syria, too, there exists no agricultural extension or educational service in that sense. To be sure, the various departments of the Ministry of Agriculture have representatives in the *mohafazats* or provinces dealing with such subjects as agricultural production, veterinary matters, plant protection and the like. But the time of these men is largely monopolized by various administrative tasks such as the enforcement of government regulations, crop reporting, locust control and similar matters. They do not have the opportunity, and sometimes not even the inclination, to work with individual farmers. Their contacts with villages are brief, sporadic and infrequent.

The mission has given considerable thought to the problem of organizing effective work among the agricultural population in the villages. Our conclusion is that this work would best be entrusted to a special rural community development organization. Other countries faced with a similar problem, like India and Pakistan, have launched such an organization; in India, where one has now been functioning for some years,

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[21] See Annex C, p. 322.

242 encouraging results have been achieved. The justification for a special organization rests primarily on the fact that a properly conceived village improvement program transcends the bounds of agriculture. Its principal task, of course, will always be to raise the standards of agriculture [511] and animal husbandry, the source of livelihood of the villagers. Yet the living conditions of the 2,000,000 people living in villages of less than 5,000 inhabitants must be improved as a whole. Standards of housing, health and sanitation, and adult education must be raised, and better roads and community facilities provided. Moreover, the need for special techniques in approaching this entire problem argues in favor of a special organization. The government has neither the staff nor the funds to carry out all the urgent village improvements itself. Its task must be rather to stimulate and assist the villagers in mobilizing their resources for self-help. Only in this way can a development program achieve worthwhile results at the village level.

242 657 The program the mission has in mind calls for the progressive introduction of rural community leaders or workers into the villages. One community worker for about 4,000 people should suffice, and if on this basis he must cover a number of villages over an extended area, he should have an assistant, sellected preferably from among the rural school teachers. The community worker, though a government employee, should have no administrative duties. His sole function should be to encourage and crystallize the villagers' desire for improvement. His training should be primarily agricultural, but he should also have sufficient knowledge of the other aspects of village life to suggest what can be done. Most of the things which can or should be done to better living conditions are rather elementary. The knowledge of the community worker, therefore, need not be profound. Moreover, he would be able to call upon the specialized services of the government for advice and assistance in dealing with problems with which he himself cannot cope. For instance, he should know enough to identify and prescribe measures for most of the prevalent diseases and pests which attack crops and livestock, but he may need help from the veterinarian or pathological service to deal with difficult cases or extensive outbreaks of disease. If he can awaken an interest in cooperatives, he will then need to call in a credit supervisor from the Agricultural Bank or an expert from the Ministry of Agriculture to launch one. He may get the villagers to start a program of constructing latrines, but need advice from the sanitation experts of the Ministry of Health on methods of construc-

tion. Similarly, he may induce the villagers to work on improving village 242 roads, but may have to go to the regional road engineer of the Ministry 657 of Public Works for advice and the temporary loan of a truck. In many respects he will be the intermediary between the villagers and the government services which can assist them. In discharging his task he will obviously have to work closely with the regular local government officials such as the *moukhtar* of the village or the *mudir* of the *nahiye* or township. His success will largely depend on the support of these officials.

Ultimately there should be about 500 such community workers and 200 assistants. The extensive preparatory and organizational work involved in starting the program would be such, however, that only about 12 community workers would be operating at the end of six years. Thereafter, the program would gain momentum, with the number of workers doubling each year so that the target could be attained in another six years. For the first six years the mission envisages a total expenditure of £S 2.7 million, but by the end of 12 years annual expenditures of £S 7 million would be required.

The mission suggests that the rural community improvement organization be headed by a special administrator directly responsible to the prime minister and the council of ministers. He should recruit a number of foreign experts to help with the necessary training and planning and the initial implementation. This group would include persons experienced in general community work, public health, agriculture and housing. The FAO and such organizations as the Near East Foundation and the Ford Foundation might be asked to provide the necessary personnel. The experience of the Near East Foundation, which has been operating a number of pilot community projects along the same lines in the Ghouta around Damascus, would be particularly helpful. The foreign experts would be primarily responsible for planning and training. They should draw up a basic handbook which would be a compendium of practical measures which community workers can apply and would offer them guidance in techniques of stimulating and organizing community action. They would plan the necessary training courses for community workers in the secondary agricultural school and assist in introducing instruction on the elements of community development work in the university, teachers' training colleges and other schools. Their assistance will also be needed in holding regional seminars in which local officials would be acquainted with the objectives and methods of the program.

244 Other government services must be effectively tied in with the com-
657 munity improvement program. At the national level, therefore, the administrator should be assisted by a coordinating and policy-making council on which the Ministries of Agriculture, Public Health, Education, Public Works and National Economy, and the Agricultural Bank would all be represented. Similarly, the work at the provincial or county level should be coordinated by a council representing the cooperating government services and chaired by the *mohafez* or the *kaimakam*. In fact, the community worker might best be attached to the office of the *mohafez* or *kaimakam*.

The inauguration and expansion of this rural community improvement organization will increase rather than diminish the demand for the services of the specialized officers of the Ministry of Agriculture. More agronomists, veterinarians and plant protection experts will be needed to make frequent visits to villages either on their own initiative or on request for the purpose of helping and advising community workers. In the beginning these specialists will serve a dual role, carrying out their present administrative tasks and giving technical supervision and guidance to the village workers. With further expansion of the community development system, however, the services of full-time technical specialists will be required. This will allow for the separation of administrative and regulatory functions from educational and demonstration activities, thus making it possible for the technical specialists to develop a closer personal working relationship with the villagers. The return of people now studying abroad will enable the Ministry to strengthen its staff in the provinces, but more personnel will also have to be recruited from the secondary agricultural school.

Agricultural Education and Staffing[23]

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874 Repeatedly the mission has emphasized the vital need for more trained staff if the government is to discharge its responsibility for raising the standard of agriculture and animal husbandry. This points to the need for providing much greater facilities for education in agriculture at the secondary school and university levels. The mission has considered a suggestion to establish a faculty at the Syrian University to provide the higher education in agriculture and veterinary science for which students

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[23] See Annex C, p. 318.

must now go abroad. Ultimately such a faculty should be established, but we have concluded that for the time being it would be wiser to concentrate on the expansion of intermediate and secondary education, the more so since excellent facilities for higher education in these fields are available not far from Syria. The mission would recommend, however, that the government increase its stipends for study abroad by a total amount of £S 750,000 in the period up to the end of 1960.

There are at present four agricultural schools of intermediate grade in the provinces and one secondary school at Kharabo, near Damascus. The mission has already recommended the establishment of an additional secondary school at Kamichliye which should provide some specialized training in agricultural engineering. The mission also proposes that the existing intermediate school at Aleppo be raised to secondary rank. Finally, the accommodation at other schools should be expanded. A program of this scope would entail additional capital expenditures of about £S 2 million and recurring operating expenses of £S 750,000 up to the end of 1960.

The Kharabo school will for some time have to be the principal means of training personnel for the various agricultural programs the mission has outlined. It has already been suggested that at least another year of specialized instruction should be added to the regular curriculum at that school for the training of agricultural credit supervisors and community workers.

The curriculum of agricultural schools will need to be reviewed and revised in order to produce graduates who are adequately equipped to enter government service or to engage in farming. The curriculum is too academic at present. It must focus more on the practical problems faced by Syrian agriculture. More emphasis must be put on manual training and shopwork so that students will know something about construction, the making and repair of implements, carpentry and other essential village crafts. More opportunity for specialization should be given in the final year of schooling. Finally, it is important that students be required to do more of the practical manual work on school farms. It is, after all, only by demonstrating their ability and willingness to do practical agricultural work that they can hope to make an impact in the villages.

Marketing

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The mission now comes to a consideration of the last but by no means the least important agricultural problem, marketing. This subject has many aspects, including transport, storage and grading, quality control and price stabilization. Improved marketing practices can yield the producer better prices and the consumers a higher quality product.

Elsewhere the mission discusses the vital factor of transport, and it has already commented on the role cooperatives could play in the local marketing of agricultural products. Here the mission wishes in the first instance to focus on the great importance of better facilities for the storage, cleaning and fumigating of grain. The lack of these facilities and the consequences for Syria have already been emphasized. The mission found a widespread recognition of their need in Syria, except perhaps among the merchants, who naturally feel that public grain storage and the extension of credit on the basis of warehouse receipts will weaken their control of the market. The mission considers it imperative, however, that Syria proceed with a grain storage program in order to strengthen the farmers and to maintain Syria's position in an increasingly competitive world grain market.

It is estimated that in the next decade some 760,000 tons of grain, principally wheat and barley, will enter commercial channels annually, and that this volume will be distributed among the producing regions approximately as follows: Jezireh, 400,000 tons; Euphrates, 95,000; Aleppo, 95,000; Hauran, 60,000; Homs-Hama, 50,000.

The mission recommends that total storage capacity of about 230,000 tons be established by 1960 at an estimated cost of £S 21 million. In the grain port of Latakia a transit silo with a capacity of 20,000-40,000 tons should be built. In Aleppo new facilities with a capacity of 60,000 tons are needed to supplement existing warehouse space, serve the surrounding grain-producing areas and operate as a reservoir for the rapid replenishment of the Latakia silo. For the Jezireh the mission suggests storage capacity of about 150,000 tons. The Latakia and Aleppo facilities should be mechanized and furnished with cleaning and fumigating equipment. In the Jezireh, however, the mission suggests that provisionally only about a fifth be mechanized. The storage there would consist simply of covered sheds which could be economically built.

The Latakia and Aleppo storage will enable Syria to export clean grain,

free of infestation, which will better be able to withstand competition on 244
the world market and fetch higher prices. The Jezireh storage will make 442
it unnecessary for farmers to dump their grain on the market immediately 488
after the harvest, enable them to obtain credit on easier terms, and lower
the cost of transport. All the facilities together will significantly reduce the
substantial losses resulting at present from exposure to weather, infestation
and rodents. The mission's estimate of the direct advantages resulting from
the reduction of losses and the improvement in prices leads it to conclude
that farmers and merchants would have ample incentive to utilize the
storage facilities, even after taking into account the storage charges they
would have to pay on the basis of operating costs and amortization.

We believe that the storage facilities, even when they have to be built by the government, should be operated by qualified private management under a long-term lease which would specify the maximum permissible storage charges. Farmers and merchants are unlikely to use facilities operated by the government itself.

Measures to improve the marketing of certain other products should 234
also be taken. Large quantities of raw milk are now marketed in major 442
cities without adequate quality control or veterinary inspection of dairy
cattle. The UNICEF, concerned over milk supply for children, has apparently offered to provide equipment and assistance for the installation of
a pasteurization plant in Damascus, and the mission urges that this project
be carried out as promptly as possible. A similiar plant may be feasible for
Aleppo. It is important that some control be established also over the
source of supply. Periodic tuberculin and blood agglutination tests for the
diagnosis of tuberculosis and brucellosis in dairy animals might, for example, be initiated. In Aleppo, where many dairy cows are kept in the
city under unsanitary conditions which produce a high incidence of
tuberculosis, the removal of dairy cattle to locations outside the city is
strongly recommended.

Improvements in public abattoirs would also bring about better prices 253
for producers and provide a better quality meat for the consumer. Existing abattoirs are for the most part old, unhygienic and possess no means
for salvaging many of the valuable by-products of slaughtering which
could be used for the manufacture of fertilizers, chemicals and drugs.
While complete renovation is not feasible in the immediate future, the
mission suggests that a start be made by erecting a modern abattoir in
Damascus at an estimated cost of £S 600,000.

656 435 A final comment must be made on price stabilization operations. At times in the past the government has intervened in the marketing of cereals in order to support the price or to protect the home market from the consequences of threatened shortages and excessive prices. Through the Cereals Office and its predecessor agencies it has engaged in buying and selling grain, and occasionally it has resorted to export prohibitions to safeguard domestic supplies. Under emergency conditions when the world supply of cereals is short, as in time of war or threat of war, such measures may be justified. Normally, however, it is better to allow the market forces free play. The history of government intervention in the market demonstrates that the government has often acted on the basis of information which subsequently proved erroneous in whole or in part. Frequently information on impending government measures has leaked out, giving windfall profits to privileged speculators. Above all, it is impossible in the long run to insulate the Syrian grain market from the world market. If there is a shortage in Syria and prices rise, some merchants will quickly seize the opportunity to import grain, and if world market prices decline, Syrian prices will inevitably have to follow if exports are not to be lost. On the whole it would be far better for the government to concentrate on the task of improving its crop statistics and to publish frequent and more reliable information on production and prices for the guidance of farmers and merchants. If emergency conditions arise, it will always be possible to authorize government intervention by special decree.

654 *Projected Expenditures*

241 231 We can now recapitulate the government expenditures in the field of agriculture and animal husbandry which are envisaged over the six years up to the end of 1960. Total projected outlays amount to around £S 336 million, or about £S 56 million per year. This represents a very substantial increase over expenditures in recent years which the mission has found difficult to ascertain but which probably have not averaged much more than £S 11 million a year.

14:International Bank S-5 (1954) 1955 MD1 Syria MD1

TABLE 6 Expenditures on Agriculture for the Six-Year Period 1955-60

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(Thousand £S)

		Total	Average annual
Irrigation and reclamation		197,200	32,866
Aerial and soil surveys and mapping		4,500	750
Credit, cooperatives, education and marketing			
Capital for Agricultural Bank	50,000		
Cooperatives	500[a]		
Rural Community Improvement Program	2,700		
Agricultural schools	2,750[a]		
Stipends for foreign study	750[a]		
Grain storage	21,000		
Damascus abattoir	600		
		78,300	13,050
Research and experimentation			
Central direction	1,800[a]		
Seed selection and propagation	2,700[a]		
Crop rotation research and trials	1,000[a]		
Livestock breeding	1,200[a]		
		6,700[a]	1,117
Encouragement of better agricultural practices			
Fertilizer	500		
Forage and green manuring	500		
Improvement and establishment of pastures	500		
		1,500	250
Special livestock program			
Veterinary services	1,200[a]		
Livestock shelters	1,720		
Reseeding of grazing land	200		
Development of desert water supplies	2,250		
		5,370	895
Agricultural settlements		4,500[b]	750
Miscellaneous			
Small implements center	525		
Special instructions on operation and maintenance of agricultural machinery	500		
Forestry service	500[a]		
		1,525	254
Continuing expenditures of Ministry of Agriculture		36,700[c]	6,117
Grand total		336,295	56,049

[a] Additional expenditures beyond levels of recent years.

[b] Other than those financed by the Agricultural Bank.

[c] Excluding special and additional expenditures specified elsewhere, but including about £S 700,000 for extra overhead expenditures.

CHAPTER 4 *INDUSTRY*

433 Considering its size and general level of development, Syria already has a considerable manufacturing industry.[23] While Syria can hardly be called an "industrialized" country as yet, the growth of manufacturing during the last decade would undoubtedly have outpaced that of agriculture if certain special circumstances, such as the availability of idle land and a great demand for agricultural commodities, had not produced an equally rapid expansion of agricultural output. Most of the industrial production is for the home market, although in 1953 manufactures, particularly those of the textile industry, contributed about 15% of the country's exports.

Modern factory production in Syria is a relatively recent development. While a few textile factories and a cement plant were established before the last war, prewar manufacturing was predominantly handicraft. In certain branches, such as the weaving of brocades and the working of metals, Syrian artisans had established a world-wide reputation. However, methods of production and even volume of output in the handicraft industries had long been rather static and had even deteriorated somewhat under the impact of the competition of foreign machine-made goods.

The scarcity and high prices of foreign manufactures during the war and immediate postwar years greatly favored an expansion of Syrian industrial production. Many new factories were established. The abnormally high profits earned in commerce during these years caused merchants to turn to industry as an investment outlet for their surplus capital. Once the profitability of industry was demonstrated, additional capital was attracted. Many industrial enterprises reinvested a substantial portion of their profits in further expansion. The opportunities for profit also stimulated some influx of foreign capital, particularly from Lebanon.
[473] Nearly all of the new enterprises took the form of joint stock companies. Although in each case a limited number of businessmen took the initiative in founding the company and retained the controlling interest, the fact that at least some of the stock ownership became rather widely dis-

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[23] See Annex F, p. 357.

433 persed testifies to the appeal which industrial investment has made to a growing number of people.

[228] The textile industry has taken the most prominent place in Syria's industrial development. There are 90,000 to 100,000 spindles working on cotton and rayon and well over 5,000 mechanical looms. In cotton cloth Syria is approaching self-sufficiency and in rayon cloth it has already achieved a net export surplus. The woolen industry, dependent on imports of raw wool or yarn, is much less developed. In dyeing and printing, modernization is well under way. Along with the production of yarn and cloth, the output of garments has considerably expanded. Knitted goods, underwear, socks and stockings are now produced on a sufficient scale to permit exports.

The vegetable oil industry and the manufacture of soap have grown substantially in the postwar period, particularly as the increase in cotton cultivation supplied more raw materials. The food canning industry was expanded, and a factory was established to produce refined sugar from domestic beet and imported raw sugar. A second cement plant was installed; the two together expect to reach an annual production capacity of 400,000 tons by 1955. The postwar period also witnessed the establishment of a number of modern flour mills, a glass factory, a metal container plant and factories producing, among other commodities, rubber boots, matches, and beverages.

Present Stage of Development

Since manufacturing is a field for private enterprise in Syria, the mission has concerned itself not with individual projects, but rather with government policies which guide and stimulate private industrial investment. These policies must, of course, be devised in the light of the current stage of industrial development and of the problems which industry faces.

In this connection it should be noted, first of all, that there have been no conspicuous cases of misdirected investment in industry. The glass plant was undoubtedly conceived on too ambitious a scale, and the government participated with private capital in an abortive venture to manufacture certain types of machinery and spare parts. By and large, however, investment has been in fields where Syria should in the long run be able to achieve efficient production capable of withstanding foreign competition. In the main, Syrian industry falls, with some overlapping, in the

433 following categories: processing of indigenous agricultural products, including cotton ginning, flour milling, vegetable oil extraction, tanning and food preserving; production of goods which because of transport costs are advantageously produced at or near the centers of consumption, such as cement and other building materials and, to a lesser extent, glass, furniture and other wood manufactures, and beverages; and the manufacture of simple consumer goods which are purchased in considerable volume by the home market, such as textiles, soap, boots and shoes, utensils, matches, sugar and sweets and the like. In all these lines Syria might be said either to enjoy some natural advantage or at least not to suffer any serious disabilities by comparison with other countries.

This does not mean that all Syrian industry is already so efficient as to be able to meet unrestricted foreign competition. Like any other young industrial country, Syria suffers from a number of handicaps which at least in the present stage prevent it from being fully competitive. Labor, management and equipment are deficient in varying degrees. With respect to labor, the mission was told that Syrian workmen have revealed considerable capacity for acquiring industrial techniques and that long-established handicraft skills have been helpful in building up a factory labor force. But a truly skilled labor force can be developed only over a long period of time, and it is evident that real labor costs as reflected by current wage rates and labor productivity are still rather high in some branches of industry. Managerial skills also vary widely, even within a single industry. In general, Syrian industrialists have demonstrated notable initiative and imagination in building up and managing their enterprises. Yet the picture is spotty. In some plants, particularly the larger ones, the quality of management compares favorably with that in western countries. Costs are carefully controlled, the management is acquainted with industrial methods and equipment used in other countries, and competent engineers, frequently recruited abroad, direct the technical aspects of production. In others, primarily small enterprises, management cannot afford to engage qualified engineers and must rely more on its own experience, painfully acquired at the expense of costly mistakes. The same differences were noted by the mission with respect to industrial equipment. Some plants are extremely well equipped, others struggle along with poor second-hand machinery, and still others are only partly mechanized. In Syrian industry, as in other segments of the economy, the most advanced and the most primitive exist side by side. In the textile industry, for example, one finds completely integrated plants carrying on spinning, weaving and dyeing; a large number of enterprises each equipped with a small number of mechanical looms; and, finally, perhaps some 6,000 hand looms still operating in part. In the leather industry there are a few modern tanneries but the bulk of the output apparently still comes from small establishments operating without machinery and with primitive techniques. In some branches of manufacturing, such as the production of leather shoes and domestic and other utensils, production is still in the handicraft stage. There is evidence, however, that even small shops are tending to mechanize themselves to some extent by the purchase of one or two machines.

Under these circumstances it is not surprising that there are great variations in efficiency even among the larger enterprises. This is reflected in part in great disparities in the profitability of industry. Profits vary widely not only from one branch of industry to another but also within a single industrial branch. In general, competition within Syria has not been sufficiently strong to force out the less efficient producers. Thus one of the central problems of Syrian industry is to bring about a general reduction of costs by assisting the less efficient producers to improve their methods of production, or, alternatively, to help the more efficient to expand their capacity and output more quickly than they could with their own resources.

We believe that the period of rapid industrial expansion has come to a close. Even in the last few years the emphasis has been more on consolidation than on further growth. While many existing plants have continued to expand, especially by installing more modern, efficient machinery, fewer new factories have been established. The more obvious or "natural" industries have been created. In some branches there is even capacity surplus to requirements, particularly considering the limited ability to export. This is true, for instance, of cotton ginning, vegetable oil extraction, glass and matches. We do not mean to imply that industrial investment opportunities have been exhausted. Further diversification of the textile and apparel industry may be possible, and factory production of shoes and the manufacture of paper and paperboard from straw or poplar wood may be undertaken. One or two new cement plants are apparently going to be established. The production of metal from scrap and the gradual development of an engineering industry may also be contemplated. The manufacture of simple pumps and engines as well as spare parts is already being carried on by many small shops but the quality of output suffers from inadequate technical supervision. An adequately equipped and staffed

433 plant might be able to undertake the production of these items as well as the improved types of agricultural implements which, in accordance with our proposals, might be developed for use on Syrian farms. It should be emphasized, however, that future industrial expansion will need to be more selective and that projects will require careful technical and economic scrutiny to establish their suitability for Syria.

We conclude, therefore, that improvement in efficiency and more careful, selective expansion are the principal problems which Syrian industry faces. To meet these problems we have a number of recommendations involving (1) increasing exposure of industry to foreign competition, (2) development of a larger market for industrial products, (3) establishment of an investment bank to provide technical and financial assistance to industry and (4) improvement in vocational education.

Protection of Industry

453 Syrian industry today is in many ways shielded against foreign compe-
654 tition. Protection of this type is a relatively recent phenomenon, dating
657 only from 1949. Before that time industry had developed with little or no
457 government assistance. Prewar tariffs were moderate and essentially revenue-producing in character. Virtually the only concessions to industry were lower duties on plant and equipment and raw materials. The rapid expansion of mechanical manufacturing occurred at a time when there was little competition from abroad. During the war imports were largely impossible and in the immediate postwar years the demand for manufactures was such that rising imports were not incompatible with the continued development of domestic output. With the relaxation of foreign exchange restrictions in 1948 and an increasingly abundant supply of manufactures in the world market, Syrian industry finally began to suffer from foreign competition. In 1949 the government came to the rescue by providing industrial establishments with facilities to obtain state-guaranteed loans at low interest rates from the issue department of the Banque de Syrie et du Liban. Pressure for more effective protection of industry was instrumental in terminating the customs union with Lebanon, which as a trading nation was interested in keeping tariffs moderate. Following the dissolution of this economic union in March 1950, import duties were generally raised and in many cases almost doubled. In 1951 tariffs on such articles as textiles, glass and soap were again sharply increased and the

first import embargoes were imposed. In 1952 a large number of imports 433
were prohibited and a *de facto* sugar trading and manufacturing monopoly 664
was instituted. The following year, however, the Minister of Economics 651
was deprived of discretionary authority to impose embargoes, and a number 457
of prohibitions were subsequently lifted. Even so, import embargoes are still applied to such consumer goods as cotton hosiery, socks and stockings, "job lot cloth," second-hand cotton and silk clothing, men's shirts, vegetable oils, various soaps, margarine, canned vegetables and fruits, confectionery, glass and glass products, match boxes and match wood, matches, pins, wooden furniture and boots and shoes. These protective measures have been supplemented by controls over exports of certain raw materials designed to give domestic industry preferential access to available supplies. Importation of ginning machines was prohibited to safeguard existing enterprises, and imports of second-hand looms and knitting machines were stopped, to insure the installation of modern machinery. In 1952 the government also initiated licensing of industrial establishments for the purpose of preventing overexpansion and ill-considered ventures. During the same year more positive assistance was provided by enacting a law for the encouragement of industry which extended a number of benefits to new enterprises and extensions of existing plants.

The mission has no doubt that some protection of industry is justified, particularly in underdeveloped countries which need time to raise labor, technical and managerial skills to a level approximating those in the more advanced industrial countries. As we have already pointed out, the types of industry developed in Syria are generally of a character to warrant the expectation that they can ultimately stand on their own feet. This goal, however, will not be reached as long as production is as effectively insulated against outside competition as at present. The present system of exaggerated protection does not provide a sufficient incentive to raise efficiency and productivity. For Syrian consumers it involves excessive sacrifices in the form of higher prices and poorer quality. In recent years, for example, the Syrian government has found it necessary to protect consumers by controlling the prices of such articles as vegetable oils, yarn and cement.

In view of these considerations we recommend in particular that the present import embargoes be abolished. In some cases it may be necessary to substitute import duties higher than those now included in the tariff schedule, but in those instances prohibitive rates should be avoided and

433 provision made for gradual reduction of the duties. At the same time we
654 suggest that the whole tariff schedule be re-examined. By and large it
651 cannot be said that the general level of tariffs is excessively high, particu-
457 larly since ad valorem rates are levied on imports valued at the official rate of exchange, and this entails an undervaluation of about 40% compared to the actual exchange rate. In fact, we recommend elsewhere that tariff rates be assessed on the basis of actual foreign exchange rates for the purpose of increasing government revenues. This should not be construed, however, as a proposal to raise all tariffs irrespective of their nature. On the contrary, we would suggest that, as part of the general revision of the schedule, those rates which are primarily protective in character should as far as possible be reduced for the purpose of encouraging outside competition and lowering prices. If necessary, such reductions could be graduated over a period of time.

434 *Possibilities of a Larger Market*
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The expansion and, above all, the diversification of industrial output in Syria is restricted by the rather small domestic market. In a country of only 3.6 million people with low purchasing power it is generally possible to manufacture only a limited range of articles which are used widely enough to warrant production on an economic scale. Broader industrial opportunities are likely to emerge only if a larger market is initially available. In the case of Syria it should be possible to establish such a market in cooperation with other Arab countries, all of which suffer from a similar handicap in the development of their industries. Over recent years the Arab countries have increasingly stressed their community of interest and the need for closer cooperation. The field of industrial development offers a particularly challenging opportunity for common endeavor. We do not suggest, of course, that the types of industrial enterprises to be developed by each country should be the subject of joint government decision. There should be consultation in cases where particular ventures are to be launched with special government assistance. In the main, however, the location and development of industry should be decided by the free play of competitive forces operating in a larger, common Arab market.

To a limited extent the Arab countries have already taken steps to develop such a market. Syria has concluded bilateral agreements with Lebanon and Jordan which free certain products from import restrictions and provide for a number of reciprocal tariff reductions and even exemptions, 434 and has been considering the renewal in some form of the close 648 economic ties with Lebanon which prevailed before 1950. All the Arab countries joined in 1953 in an Inter-Arab Economic Agreement providing for tariff reductions on a considerable number of industrial products without, however, affecting other barriers to trade.

The establishment of a common Arab market will undoubtedly take time. The history of the Benelux economic union demonstrates that it can only be achieved gradually and then only if there is a full understanding among the partners of each other's problems and a willingness to make concessions and sacrifices. A single market cannot be established simply by a progressive elimination of trade barriers; it entails also a gradual coordination of those economic policies and measures which govern the conditions under which enterprise in the various countries operates. To bring national cost and price structures into line with each other and to equalize the conditions of competition, it will be necessary to harmonize, step by step, fiscal, monetary and exchange policies, the terms governing access to raw materials and equipment and the legislation regulating labor conditions and providing assistance to industry. If this can be accomplished, the possibilities of further industrial development in the Arab world are likely to be significantly greater.

Establishment of an Investment Bank 454

The mission attaches great importance to the establishment of an institution capable of furnishing both technical and financial assistance to industry. When industrialists hav[illegible]fficient capital for investment at present, they can turn only to the government; the banks provide only working capital. As already indicated, the government began in 1949 to guarantee loans for this purpose through the Banque de Syrie et du Liban. During the period June 1949-January 1952, 18 such loans totaling £S 23.6 million were made, although by the end of 1953 repayments had reduced the balance to £S 13.4 million. This guaranteed-loan scheme was suspended in 1952 but revived at the beginning of 1954, subject to a limitation of £S 15 million on the entire amount outstanding.

For a number of reasons we believe that this method of financial assistance ought to be abandoned. Although the interest rate of 3% which has been made possible only because of the government guarantee and the

454 large government deposits with the BSL, is undoubtedly attractive to the borrower, these loans entail a risk of inflation, unless at the same time there are offsetting deflationary factors operating in the economy. Moreover, the extension of loans to industry calls for judgments on the technical and economic soundness of business enterprises and the exclusion of all political considerations, which is very difficult for any government. It requires close scrutiny and supervision of borrowers, which can hardly be carried out by a government agency because private enterprise strongly resists such government control.

In our opinion, a privately managed and privately owned investment institution would be in a much better position than any government agency to give industry the type of assistance which it needs at its present stage of development. We have already stressed that under present conditions technical assistance is as much needed as financial assistance. On the basis of our consultations with Syrian businessmen we are convinced that the latter would hardly accept technical assistance from the government, not only because they would have no confidence in the government's ability to provide it but also because they would not countenance the detailed government inspection of their methods of doing business which might be involved.

The technical help which the institution we propose might give would take the form both of advising existing factories and shops on improving their methods of operation and of appraising the soundness of proposed new industrial ventures. For this purpose the bank would need a small technical staff, including a cost accountant, an economist and a few engineers who could advise on plant layout, work flow, costing, requirements for new machinery and equipment and the like. The bank's investment activities would be closely related to its technical services. It could finance both new equipment for existing plants where this is demonstrably necessary to improve efficiency and reduce costs, and also new enterprises judged by its expert staff to be economically and technically feasible. The bank should, however, be paid for technical services unrelated to projects which it would assist in financing.

Although the bank's primary function would be to assist manufacturing industries, we envisage that it might also help finance the tourist industry, particularly hotels, and the purchase of machinery, sinking of wells or installation of pumps by agriculturists who might be considered as engaged in commercial-farming operations and who are not among the small farmers principally served by the Agricultural Bank. The bank's financing would presumably be largely in the form of loans, although its operations should be flexible enough to permit, in case of need, underwriting or equity participation. The interest rate on loans should be high enough to ensure that private capital will be invested in the bank and will for that reason have to be substantially higher than that of the BSL government-guaranteed loans. Moreover, new industrial investments in Syria should be able to earn a higher return, at least in the long run; and where the short-term return, as distinct from the long-term prospects, is likely to be less favorable, the bank could provide its financial assistance in the form of equity participation. As far as agricultural investment is concerned, most farm operators now pay a higher rate of interest when purchasing machinery on credit.

We suggest that the investment bank be capitalized at £S 15 million, of which £S 10 million might, if necessary, be paid up in installments within a few years. This capital would be subscribed by private individuals and institutions and would be matched by a contribution from the government which might take the form of a long-term advance. We believe it essential that the bank be privately owned and privately managed if it is to inspire confidence in the business community. At the same time, it will need supplemental resources from the government in order to ensure its success. The government contribution should be made on such terms that the net income of the institution would first be used to assure a minimum dividend on the privately-held share capital. Only under such an arrangement could sufficient private capital be attracted. We estimate that the bank should be able to earn an adequate return on its share capital when the amount of its investments approximates £S 15 million. In the first few years of its operations, the Bank might suffer small losses which would, however, be covered out of profits in ensuing years.

It might be argued that this proposal is not advantageous to the government. The real test, however, is whether the institution would make an important contribution to the economic development of the country which the government is anxious to stimulate. We believe that the proposed bank could play an important role in stimulating and directing sound private investment. In addition to mobilizing domestic private capital, it could become the means for attracting foreign capital to Syria. A number of Asiatic countries have perceived the advantage of government-assisted private investment institutions. Thus, India has organized an investment

454 corporation on a basis similar to the one we recommend, and Pakistan is contemplating the establishment of such an institution.

We have little doubt that the suggested bank would find ample opportunities for investment. While there is no absolute assurance that private capital can be found for the bank, our preliminary exploration in Syria warrants some optimism on this score. Commercial banks might well subscribe a substantial part of this capital, and the balance could probably be obtained from private individuals and business concerns.

While the bank would not make loans for working capital, it might indirectly make it easier for companies to obtain working capital from the regular commercial banks. The mission found that a number of industrial enterprises do have difficulty in obtaining sufficient working capital, particularly to finance heavy seasonal purchases of such agricultural raw materials as cotton, oilseeds, and fruits and vegetables for canning. The proposed bank might explore the possibility of financing the construction of bonded warehouses in Damascus and Aleppo where industrial enterprises could store raw materials and even finished goods in such a way as to furnish ample security for additional commercial bank credit.

Vocational Education

874 While appropriate technical and financial assistance can do much to
464 raise industrial efficiency, the better training of labor is also important. At present vocational education is seriously inadequate. There is an urgent need to expand and improve vocational schooling so that it will effectively serve the requirements of industry and business and will be properly related to in-plant training. Specific recommendations on this subject are made in a subsequent chapter on education.

Projected Oil Refinery

471 With the exception of one ill-starred venture in which it went into
302 partnership with private capital, the government has wisely left the ownership and management of manufacturing enterprises to private initiative. We are strongly convinced that this policy should continue to be followed. During the last few years it has been proposed from time to time that the government depart from this rule by establishing and operating a petro-

leum refinery. Syria now obtains its petroleum products, of which total 471
consumption in 1953 amounted to around 450,000 metric tons, partly from 32
the Tripoli refinery in Lebanon and partly from more distant sources of [450]
supply. By arrangements between the government and the distributing companies, prices in Syria are explicitly or implicitly based on ex-Tripoli prices plus transport costs. It is perhaps natural that Syria should want its own refinery, not only because a large volume of crude oil flows across its territory through the Trans-Arabian pipeline and the Iraq Petroleum Company's pipelines, but also because transport costs substantially increase the price of petroleum products.

A case for a government refinery might be made if there were no alternatives. Private companies, however, are apparently willing to erect such a refinery. The Iraq Petroleum Company, for instance, has offered to carry out its original pledge to construct and operate a refinery serving Syrian requirements. Its offer is apparently conditioned on an agreement with the government regarding pipeline transit dues and on the understanding that the refined products would be sold at the refinery site on the basis of the prices obtaining at the Tripoli refinery. The company has offered to raise the transit dues now paid but the desultory negotiations on this subject carried on over the past years have not produced an agreement. The mission does not necessarily suggest that an agreement for the construction of a refinery be made with the Iraq Petroleum Company but simply that the government avail itself of offers by private enterprise to build a refinery. Such a refinery together with appurtenant facilities would probably cost over £S 30 million, a sum which the government can ill afford to spend at a time when it is hard pressed to find all the resources required for projects for which private capital is not available. At the same time it is evident that the construction of a refinery in Syria would be advantageous to the economy. For example, if a Syrian refinery sold its products on the basis of the price formula proposed by the Iraq Petroleum Company, the cost of transport between Tripoli and Homs, the proposed site of the new refinery, would be saved. At present, the difference between the price of gas oil and fuel oil at Tripoli and Homs, for example, is £S 6.20 and £S 9.25 per metric ton respectively, or about 7% and 15% of the prices at Homs. The construction of the refinery would undoubtedly bring about a significant reduction in the prices of refined products throughout northern Syria, which consumes the bulk of the country's total requirements.

Other Industrial Policies

433 We now come to a consideration of certain other government policies
654 relating to industry. One of these pertains to the special benefits extended to new plants or extensions of existing plants under the law for the encouragement of industry enacted in 1952 and first applied in 1953. Among these benefits are a six-year exemption from the so-called "temettu" or license tax and from the tax on income from real property, and exemption from income tax for profits up to 10% allocated to reserves and used within two years for further expansion. Certain additional assistance is available for industries specially determined to be useful, namely a three-year exemption from all income taxes and exemption from customs duties on required machinery, tools and construction materials.

In general, we consider it appropriate to give such incentives to the establishment or expansion of industrial plants in a country like Syria where industrial development is still subject to considerable risks. We suggest, however, that the government replace the exemptions from the real property and income taxes with a scheme permitting industrial enterprises more rapid depreciation of plant and equipment for tax purposes. Some such scheme, coupled with a provision allowing accounting losses resulting from accelerated depreciation to be charged against taxable income for a limited number of years in the past and the future, would relate the amount of assistance more closely to capital needs than the proposed scheme does. It would provide an incentive for continuing expansion of industrial enterprises. In addition, we believe it would be easier to administer than the present provisions, which require tax authorities to determine what portion of the tax on income from real property and the tax on total profits is to be allocated to new plant and equipment as distinct from the previously existing investment.

The establishment of new industrial plants and the transfer of existing enterprises from congested urban districts might be considerably facilitated by the creation of industrial zones on the outskirts of the major cities. It would be desirable to develop a number of such zones in locations convenient both to labor residing in the city and to workers coming from the country. Normally it should be sufficient to provide land and public utilities in these zones on reasonable terms. To attract the smaller enterprises and shops, however, we suggest that small blocks of suitable workshop buildings might be erected for rent or for sale in at least one zone. This

would not only provide an incentive to the transfer of small manufacturing 433
shops and enterprises from the center of the city, but might well 654
incidentally stimulate new investment in modernization of their equipment. In this connection it is significant that the removal of tanneries from the center of Damascus to a special industrial zone has in fact been attended by the installation of a considerable amount of new machinery and a substantial improvement in working conditions. While it is possible that private enterprise might become interested in the establishment of such industrial zones and shops in cooperation with the municipalities, we have made allowance in our proposed development program for the expenditure of £S 1.8 million by the central government for this purpose.

In the expansion of new industry the question arises whether the government 433
should exercise any control over the establishment of new enterprises 656
or additions to existing plants. By instituting a licensing system in 1952 the government has in principle already assumed such powers. While they have apparently not been exercised in a restrictive fashion, we strongly doubt that any government under normal economic conditions should even assume such authority. Private enterprise will ordinarily better be able to determine the wisdom of proceeding with a particular venture than civil servants inexperienced in business. There may be special cases where excess capacity is so serious as to warrant government intervention but even then great caution is necessary lest the restriction of competition in the development of industry impair the possibility of attaining greater efficiency.

With respect to working conditions, the mission has a few observations. 466
Syria has a rather liberal labor code for industry, limiting the working week to 48 hours, prohibiting the employment of children under 12 years of age and containing stipulations regarding dismissal and death benefits and maternity and sick leave. Minimum wages are also set by regional wage boards. In the larger factories visited by the mission working conditions appeared for the most part satisfactory. In a number of plants, however, we observed a lack of safety precautions, notably inadequate protection of workers from the danger of moving parts and of dust and humidity. This problem calls for attention. Another deficiency is the lack of thorough enforcement of the labor code. The degree of compliance in the larger factories is not unsatisfactory. In the smaller factories and shops, however, enforcement is inadequate or virtually non-existent. While we do not suggest that the provisions of the labor code could be enforced in all of the small enterprises, we do recommend that some attempt be made

466 to curb at least the abuse of child labor which exists in most small shops. This might be done by occasional spot checks. One of the difficulties, however, is the inadequacy of the enforcement staff of the Directorate of Labor and Social Affairs in the Ministry of Economics. At the beginning of 1954 there were apparently only eight inspectors assigned to the enforcement of the labor code. We urge that the number be increased and that for this purpose an additional £S 325,000 be made available to the Labor Directorate over the next six years.

The Tourist Industry

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485 In the discussion of the proposed investment bank, we have already indicated that this institution might assist in financing hotels, as well as manufacturing industries and agriculture. Although this chapter focuses on the problem of developing manufacturing, it appears appropriate to mention here also the possibilities of the tourist industry. Syria has much to interest the tourist from the West. On its soil many civilizations and [172] cultures have flourished and left their imprint. There are countless archaeological sites which are still yielding up treasured relics of the past, numerous ancient Greco-Roman and early Christian cities, fascinating ruined Christian churches and imposing mosques, old Crusader castles and Arab forts. Both Aleppo and Damascus, which vie with each other in the claim to be the oldest continuously inhabited city in the world, intrigue the tourist with their blend of the ancient, the picturesque and the modern.

In the postwar period the airplane has greatly extended the orbit of travel for the American and West European, and rising standards of living have enabled many more to travel abroad than before. In Greece, for example, the number of foreign tourists rose from about 33,000 in 1950 to almost 76,000 in 1953, and the per capita expenditure is said to have doubled during this period. Unfortunately, the mission was unable to obtain figures on the total of foreign travellers visiting Syria, but the number has undoubtedly increased significantly. Many travellers to the Holy Land now stop over in Syria. This tourist trade could be greatly expanded if a concerted attempt were made to advertise the attractions of Syria and to improve the inadequate accommodations available to foreigners.

More and better hotels, good communications and adequate preservation and presentation of historical and cultural monuments are all impor-

tant elements in a program to attract more tourists. At present Damascus 457
is the only Syrian city with first class hotel accommodations and even here 485
there is an acute shortage. Such cities and towns as Aleppo, Latakia and Palmyra all urgently require good hotels for tourists and other travellers. Construction and operation of hotels should, of course, be left to private enterprise encouraged by the government and assisted by the projected investment bank. There are, however, a number of places of potential importance to the tourist trade where rest houses and restaurants rather than hotels are needed. Such facilities are not likely to be sufficiently profitable, at least in the beginning, to attract private investment. We suggest, therefore, that the government spend approximately £S 500,000 on the erection and operation of rest houses and restaurants at such locations as Ras Shamra (site of ancient city of Ugarit), Saint Simeon (ruins of old city and monastery-church in Djebel es Smaane), Al Rasafa (Christian monuments and Moslem palace), Doura Europos (ancient city), Krak des Chevaliers (crusaders' castle), Tartous and Soueida. As a UNESCO mission has suggested, some of these could probably be constructed inside existing historical buildings, thus leaving the appearance of the site undisturbed and enhancing their appeal to tourists.

The interest of tourists in the historical and archaeological treasures 457
of Syria also provides a definite economic justification for increasing the 658
expenditures of the Directorate General of Antiquities. This government 172
department has jurisdiction over museums, historical monuments and 217
archaeological excavations. It finances its operations in part from its own receipts, but the government has during the last two years contributed, on the average, £S 763,000 to its annual budget of a little over £S 1 million. In 1954 its total planned investment was about £S 450,000, of which £S 280,000 was devoted to museums, £S 120,000 to the reconstruction of monuments and £S 50,000 to excavations. Damascus possesses a notable museum of which the country can well be proud, but about £S 1 million is still required for its completion. The Aleppo museum, which houses many fine treasures, admittedly needs a new building at a cost of £S 1 million, and appropriate regional and local museums would help the visitor to visualize the cultural heritage and archaelogical finds of particular localities. Although all of this could not be realized within the 1955-60 period, we suggest that £S 2.4 million be provided to complete the Damascus museum, establish a few local museums in such places as Ras Shamra and Palmyra and at least start the new building in Aleppo.

457 Proper maintenance and repair of monuments is perhaps even more urgent,
658 since there is considerable deterioration at present. We accordingly recom-
172 mend that expenditures for this purpose be raised, on the average, approximately 50% over the next six years. A similar increase might be contemplated for excavation work which, as in the past, will presumably be carried out in cooperation with foreign archaeological missions. All this will require an increase in the subsidies paid to the Directorate of Antiquities out of the government budget to an average annual amount of approximately £S 950,000. The gradual growth in the Directorate's own receipts will probably suffice to cover necessary increases in administrative outlays.

[491] Poor roads now impede access to many interesting historical monuments. In addition to the recommendations on the national road network made elsewhere, we believe Syria would be well advised to spend about £S 1.5 million on the improvement of local roads of importance to the tourist trade. The access roads to the Krak des Chevaliers and Saint Simeon should have the highest priority.

457 Within the not too distant future the government should contemplate the establishment of a special office charged with the promotion of tourism. The cooperation and financial support of business groups interested in the tourist trade might well be enlisted. It should not only seek to interest the foreign tourist in the attractions of Syria, but also to make the Syrian people and Syrian officials more aware of the importance of the tourist trade and of making the tourist genuinely welcome.

Government Expenditures on Industry

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654 Although industry is preeminently a field for private enterprise, we have made in this chapter a number of recommendations entailing additional government expenditures. For the period 1955-60 these would total about £S 20.5 million, allocated as follows (in thousands of Syrian pounds):

	Total	Average annual
Manufacturing		
Investment bank	10,500	1,750
Industrial zones and workshops	1,800	300
Enforcement of labor code[a]	325	54

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	Total	Average annual
Tourism		
Rest houses and restaurants	500	83
Directorate of Antiquities[b]	5,700	950
Tourist roads	1,500	250
Tourist office	200	33
Total	20,525	3,420

[a] Additional expenditures beyond present levels.

[b] Including the entire government subvention to the Department of Antiquities as increased under our recommendations.

CHAPTER 5 *ELECTRIC POWER*

Existing Facilities

377
365 Syria is rather poorly supplied with electric power. Out of a population of 3.6 million, only 1.4 million live in towns and villages supplied with electricity and of these only about half actually use it. While public utilities have been increasing their capacity over the last eight years at a mean annual rate of about 17%, their total installed capacity at the end of 1953 amounted to only 34,350 KW or 44,776 KVA.[24] Most of the newer factories have found it necessary to provide their own power facilities. The industrial power plants which the mission was able to record have a total capacity of 20,135 KW. Some of these plants are connected with the public utilities. In 1953 the power supplied by public utilities amounted to 119.8 million KWH; and Damascus and Aleppo together accounted for 81% of this total. In fact, there were only six towns in Syria where the power generated by public utilities in 1953 exceeded a million KWH. It may be roughly estimated that factories consumed about 43 million KWH of the power generated by their own plants. Thus the total supply of electricity during 1953—about 163 million KWH—was equivalent to only 46 KWH per inhabitant, an amount comparable to that in Turkey, but 41% of that in Lebanon and about half that in Algeria and French Morocco.

At present public utilities have great difficulty in meeting their peak load. No reserve capacity exists. In Aleppo and Damascus surcharges discourage power consumption during peak hours. Since many of the large industrial power consumers have their own power plants, the public utilities generate primarily for lighting. The latter accordingly cannot balance power requirements for industry and lighting and thus tend to have an exaggerated peak load, which increases the cost of power generation. Costs are further raised by the fact that generating units are below the capacity required for economical operation. It should also be noted that

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[24] See Annex G, p. 410.

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nearly all of the power is produced by diesel units which are comparatively 377
expensive to operate. At the end of 1953 the public utilities had no steam 365
plant and only 14% of their capacity consisted of hydro plant. The geographic dispersion of cities and low power consumption has made anything approaching a national grid impossible. Only the cities of Homs and Hama are interconnected through the Ghajar hydro plant.

Future Requirements

In principle it would be desirable to provide for a considerable accelera- 377
tion of the rate at which the capacity of public utilities has been growing. The objectives of an expansion program should be to meet increasing power requirements, to permit factories gradually to shift to public utilities as a source of power, and to provide a margin as a reserve against breakdowns. Limitations on available resources, however, make it impossible to undertake a very ambitious program in the years immediately ahead. Capital must be carefully allocated. At this juncture in Syria's development, for example, it is more important to improve the water supply for communities and for agriculture than to provide more electricity for lighting.

In formulating its recommendations on power the mission has assumed in the first instance an expansion in the consumption of power supplied by public utilities at about the same rate as in the period 1949-53, namely an average annual increase of 14%. This would entail a rise in capacity from 44,776 KVA in 1953 to 106,000 KVA at the end of 1960. We consider, however, that a further increase of at least 25,000 KVA is necessary to provide a small reserve against breakdowns. This program does not specifically provide for a transfer of industrial power demand to the public utilities but, with the somewhat slower growth in industrial production which we anticipate, factories should be able to draw a little more on public utilities, at least in the off-peak hours.

Plants scheduled for completion in 1954 account for an additional capacity of 14,610 KVA. Among these are a 12,500 KVA steam plant for Damascus and a 1,350 KVA diesel plant in Homs. To meet the balance of the need, the mission recommends the installation of the following facilities by the end of 1960:

Type and location of facility	Capacity (KVA)	Estimated cost (millions of £S)
For Damascus		
Deir Makaren and Hameh hydro plants	12,500	6.0
Souk Wadi Barada hydro plant	8,000	4.5
For Aleppo		
Steam plant	31,250	16.5
For Homs-Hama-Ghab area		
Diesel plant at Jisr ech Choghour	2,500	1.5
Diesel plant at Hama	2,500	1.5
Transmission line, Hama-Ghab-Jisr ech Choghour		3.0
For Latakia		
Diesel plant	2,500	1.5
Nahr el Kebir hydro plant	2,500	5.0
For Deir ez Zor		
Diesel plant	2,000	1.0
For small towns		
25 small diesel units	5,500	4.7
Improvements in existing plants and distribution	2,500	1.5
Total	71,750	46.7

If this program is completed, the public utilities will have a total capacity of about 130,000 KVA, of which about 21% will be hydro and approximately 33% steam power. The increase in the proportion of hydro and steam power should make possible some reduction in generating costs. It should be noted that the cost of this program—about £S 47 million—does not represent all of the expenditures on power for the period 1955-60. Some £S 14 million will also have to be found to compensate the foreign stockholders of the Aleppo and Damascus public utilities companies which were nationalized in 1951.

In this program the mission has not provided for the hydro plant that could ultimately be installed at the Youssef Pasha dam or for the hydro plants which might be established in connection with the development of the Ghab. With the installation of 75,000 KW capacity at Youssef Pasha, some 400 million KWH of firm power and 120 million KWH of secondary power could be generated. In the discussion of irrigation, however, the mission has already set forth the reasons for deferring this project, which ultimately should prove desirable. No provision has been made for the Ghab plants since these are due to be installed after 1960. Plans for the

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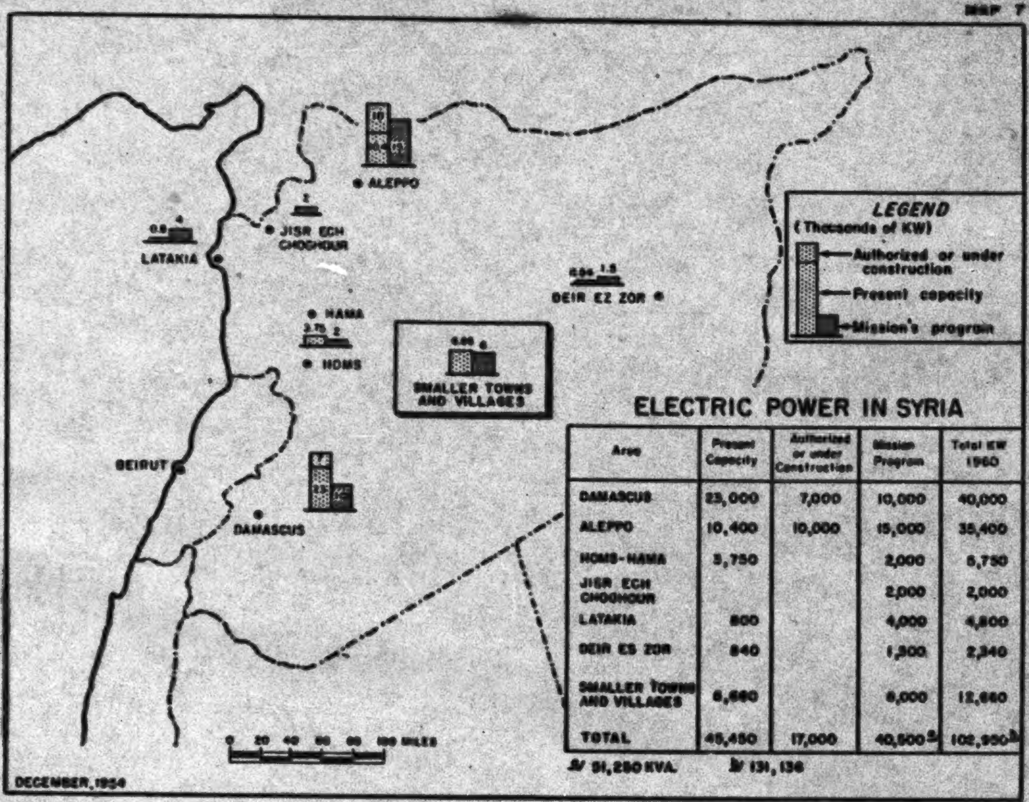
14:International Bank S-5(1954)1955 MD1 Syria MD1


MAP 7
ALEPPO
JISR ECH CHOGHOUR
2
LATAKIA
0.8
4
HAMA
3.75
2
HOMS
DEIR EZ ZOR
0.84
1.3
SMALLER TOWNS AND VILLAGES
6.66
6
BEIRUT
DAMASCUS
0
20
40
60
80
100 MILES
LEGEND
(Thousands of KW)
Authorized or under construction
Present capacity
Mission's program
DECEMBER, 1954

ELECTRIC POWER IN SYRIA

Area	Present Capacity	Authorized or under Construction	Mission Program	Total KW 1960
DAMASCUS	23,000	7,000	10,000	40,000
ALEPPO	10,400	10,000	15,000	35,400
HOMS-HAMA	3,750		2,000	5,750
JISR ECH CHOGHOUR			2,000	2,000
LATAKIA	800		4,000	4,800
DEIR ES ZOR	840		1,300	2,340
SMALLER TOWNS AND VILLAGES	6,660		6,000	12,660
TOTAL	45,450	17,000	40,500[a]	102,950[b]

[a] 51,250 KVA. [b] 131,136

development of the Ghab call for the eventual installation of four hydroelectric works with an aggregate capacity of 18,240 KVA. Two of these will be seasonal in their operation. In general the mission would question the advisability of hydro plants which are likely to furnish little firm power in relation to the installed capacity. For this reason, for example, the mission has omitted from the recommended program the project for a 3,125 KVA power plant which would operate for only a small part of the year on the water periodically drained from the Roudj.

Distribution of Additional Capacity

Most of the expansion must obviously take place in Damascus and Aleppo, which are the focal points of rising power demand. With the completion of the steam plant, the public utility in Damascus now has a capacity of 29,000 KVA. The Souk Wadi Barada hydro plant on which construction is beginning will raise this to 37,000 KVA by the end of 1955. While this may be enough to meet the peak load anticipated for 1960, the mission considers it advisable, particularly in view of the condition of the Damascus diesel plant, to provide some reserve capacity by installing hydro plants at the two dams at Hameh and Deir Makaren which the mission proposes should be constructed in any event to provide additional irrigation in the vicinity of Damascus. This appears to the mission a more economical solution than the addition of another unit to the new steam plant. The mission has not taken into account the plan to provide Damascus with power from a hydro plant to be installed on the Yarmuk river on the Syrian-Jordanian border. While a Syrian-Jordanian agreement provides for joint development of the Yarmuk river for power and irrigation, the plans have not yet reached an advanced stage. Moreover, the mission believes that the Yarmuk power may well be too costly in view of the need for transmission over a considerable distance and for a thermal plant to stabilize the power coming from this source.

In Aleppo power requirements have been growing more rapidly than in Damascus, and the power shortage is also more acute. Construction of a new steam plant of 12,500 KVA has just begun and will raise available capacity to around 27,500 KVA. Since the peak load anticipated for 1960 will probably require a capacity of 42,900 KVA, the mission believes it imperative that the new steam plant be expanded in two further stages to provide an additional capacity of 18,750 KVA.

Latakia, which now has only an old diesel plant with a capacity of 800 377 KW, must have additional capacity to meet its rapidly growing requirements. The most immediate need can be met by the construction of a 2,500 KVA diesel plant. This can later be supplemented by the installation of a hydroelectric plant at the site of the dam on the Nahr el Kebir which the mission has recommended as part of the irrigation program.

Deir ez Zor, the center of the developing Euphrates river valley and the fifth largest city in the country, also urgently needs a new 2,000 KVA diesel plant. The existing plant has a capacity of only 915 KVA.

The reclamation of the Ghab will generate a considerable increase in general activity in that region and an attendant expansion of power requirements. To meet this need the mission suggests the installation of new diesel plants of 2,500 KVA each in both Hama and Jisr ech Choghour. It would be advisable to connect these plants with a transmission line running through the Ghab and capable of supplying power for construction throughout this area and for the villages en route. Jisr ech Choghour in particular will become the center of construction activity. The mission is aware that plans for the Ghab call for the installation of a 6,250 KVA hydroelectric works at this location. The power from this plant, however, will not be firm and is in any event not likely to become available soon. The mission considers therefore that a diesel plant which can be quickly constructed is necessary to meet the immediate requirements.

For the smaller towns and villages the mission has proposed only a 377 modest program involving some improvements in existing plants to raise 365 their capacity, and the installation of 25 small diesel units with an individual capacity of 200 or 250 KVA. The more rapid electrification of villages and small towns should, in our opinion, be postponed for the time being in favor of more urgent programs.

Government Direction and Supervision

To carry out the recommended expansion program it will be necessary 377 to strengthen the Directorate of Electricity in the Ministry of Public 647 Works. This directorate was established in 1953 to coordinate the development of electricity in Syria and supervise the construction and operation of power plants. The mission recommends that the directorate be provided with a staff of 10 trained engineers to enable it to carry out its functions adequately. Separate sections should be organized for the technical

377 447 and administrative supervision of public utilities. Supervision ought to be concentrated primarily on the utilities of the small towns and villages which are often substandard in their equipment and operation and are most in need of technical guidance in standardizing and improving their equipment. In addition to discharging its supervisory functions, the directorate should work out long-range plans, including a properly phased plan for the establishment of a power network which would be helpful in determining the location and size of power plants to be established in the future.

Electricity Rates[25]

365 435 655 As power production increases, there will no doubt be considerable pressure to lower the rates now charged for electricity. The mission encountered much complaint about their present level and structure. The rates charged for lighting in the principal cities do not, however, appear excessive by comparison with other countries. Electricity prices in the small towns and villages, on the other hand, are very high, but the generation of electricity by small diesel units and exclusively for lighting is inevitably rather expensive. The rates charged for electricity used as power are definitely higher than in many other countries. In Syria the power rates are often compared unfavorably with those in Lebanon in particular.

Nevertheless, the mission strongly advises against a general reduction of electricity rates over the next five or six years. An adequate supply of electricity is more important at this time than lower prices for electricity. The profits of the public utilities must be safeguarded so that the needed expansion program can be financed from their own resources. This is particularly true of the nationalized utilities of Damascus and Aleppo which have been earning considerable profits. With the anticipated increase in power generation and some reduction in costs of production, the mission anticipates that the net operating income of these utilities exclusive of depreciation allowances may reach a total of £S 60 million over the six-year period 1955-60. Most of this sum will be needed to finance expansion and pay the indemnities for nationalization. In this way the government will be able to conserve the resources derived from taxation and to borrow for other urgent requirements.

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[25] See Annex G, p. 422.

CHAPTER 6 *TRANSPORT AND COMMUNICATIONS*

It is generally recognized that the development of transport and communications is one of the most urgent needs of Syria. Transport facilities have not kept pace with the expansion of production and particularly with shifts in the geographic pattern of agricultural output. Transport is generally costly and subject to interruption, and needs to be made cheaper and more dependable. The railways were all constructed before Syria became independent and are ill-adapted to serve the national economy. The roads are in part badly maintained, and the great majority are dirt roads or tracks, which in the rainy season can be used only with difficulty or not at all. The northeastern part of Syria, particularly the Jezireh, is most poorly provided with roads despite the fact that it has become the country's principal granary and source of exportable cereals. Domestic civil aviation is in its infancy, although Syria is rather well served by international airlines. With respect to telecommunications the country is in a better position. The telephone network has been considerably expanded and, although it has not kept up with the developing needs of certain rapidly growing commercial centers, a program to remedy the principal deficiencies is well in hand.

The transport and communications system must, of course, be developed primarily to facilitate the country's internal and external commerce. Syria, however, also serves as a transit country. In the past, before the opening of the Suez canal, its transit trade was undoubtedly much more important. In Syria, the goods of the East met those coming from Europe. A number of the principal cities, such as Aleppo and Damascus, owe to this trade their early commercial importance. They were the terminal points of the camel caravans from the East and the places where goods were transshipped to donkeys and mules to start the arduous trip across the mountain ranges to the Mediterranean. Even now, Syria has not wholly lost its importance as an avenue of international traffic. The Northern Railway carries traffic for both Turkey and Iraq, and the trans-Syrian desert road from Damascus conveys a considerable number of passengers and

489 modest quantities of goods between Beirut and Baghdad. Above all, most of the foreign trade of Jordan flows through Syria to and from Beirut.

1 EXISTING TRANSPORT FACILITIES

A brief inventory of the principal transport facilities is an essential preliminary to a discussion of the problems and methods of coping with them.

496 *The Railways*[26]

Three railways operate in Syria—the Northern Railway, the Hedjaz Railway and the DHP (Chemin de Fer Damas, Hama et Prolongements).

The Northern Railway is the Syrian section of that international railway which achieved fame as the Berlin-Baghdad Railway. Coming from Baghdad and Mosul in Iraq, it traverses a portion of northeastern Syria from Tell Kotchek to Kamichliye, then enters Turkey, proceeding just along the boundary until it turns south to Aleppo and finally once again north to Turkey where one branch runs to the port of Iskenderun and the [465] other to Istanbul. The Syrian sections are owned by the government and managed by a Director of Railways and Council Administration under the Ministry of Public Works. Out of approximately 400,000 tons of cargo carried in 1952, the Northern Railway transported about 101,000 tons for Iraq, mostly in transit, and some 106,000 tons, principally grain and coal, in transit for Turkey. Although the traffic is modest, the development of agricultural production in the Syrian Jezireh and the adjoining portions of Turkey have been instrumental in raising it from about 22 million ton-kilometers in 1938 to 55 million in 1953.

The Northern Railway links at Aleppo with the DHP, operated by a private French company under an 1893 concession and serving both Syria and Lebanon. The DHP system consists of both narrow- and standard-gauge lines. The most important standard-gauge line runs from Aleppo via Hama and Homs to the Lebanese port of Tripoli and thence along the Lebanese coast. Aside from agricultural commodities produced in the Homs-Hama region, it carries the bulk of transit traffic to and from Iraq coming over the Northern Railway. It also carries Syrian cereals and other products to Lebanon, imported raw sugar for processing at the Homs refinery, and, to some extent, petroleum products from the oil refinery at Tripoli. At Homs another standard-gauge line runs south into Lebanon to Rayak where it links up with the DHP's narrow-gauge railway connecting Beirut with Damascus. For Syria this narrow-gauge line has little economic importance; it handles transit traffic for Jordan almost exclusively. In 1952 it carried approximately 129,000 tons compared to 385,000 tons for the standard-gauge portion of the system, and of this total well over 100,000 tons was for Jordanian account. The DHP transports more passengers than either of the other two railways, but most of this is local traffic and in recent postwar years, in terms of passenger-kilometers, it has been only 11% to 17% of prewar levels.

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[26] See Annex H, p. 425.

At Damascus the DHP narrow-gauge line joins the narrow-gauge railway of the Hedjaz which runs south to Amman, the Jordanian capital, and some distance beyond. The Hedjaz Railway is a *waqf* or Moslem religious endowment, administered by the Syrian government through the agency of a director-general and a Council of Administration responsible to the Prime Minister. It was built to handle the pilgrim traffic and originally ran over a distance of 3,159 kilometers to Medina in Saudi Arabia. During the first World War most of the line was dismantled and has never been rebuilt. In January 1954, however, Syria, Jordan and Saudi Arabia reached an agreement to reconstruct the entire line to Medina, with Saudi Arabia apparently undertaking to finance the greater part of the cost. Despite the disruption of the rail connection with the Moslem Holy Places, pilgrim traffic over the Hedjaz Railway has shown a tendency to revive in recent years, because the Syrian government has come to the rescue of the railway by prohibiting pilgrimages by sea from Latakia, and steps have been taken to organize the transport of pilgrims by sea from the Jordanian port of Aqaba to Jidda. The goods traffic of the railway is, as in the case of the Damascus-Beirut line, almost all transit trade for Jordan. In fact, the volume of Syrian goods transported internally represents less than 10% of the total.

The nadir of traffic on all the Syrian railways combined was reached in 1949 and 1950. In recent years there has been a recovery, but the volume of goods traffic handled in 1953 barely reached prewar levels, while passenger traffic was only about one-third of the prewar volume.[27] It is scarcely surprising, therefore, that the railways should be operating at a deficit. The

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[27] See Annex H, p. 427.

496 Syrian government has been sharing the deficit of the DHP Railway with the Lebanese government on a fifty-fifty basis and also defraying the losses of the Hedjaz and Northern Railways. Government outlays on this account have been rising—from an average of £S 641,000 in 1950-52 to an estimated £S 750,000 in 1953 and £S 1.209 million in 1954. Unfortunately a further substantial increase must be anticipated. The Turkish government is expected to complete in 1955 or 1956 a railway shortcut which will make it unnecessary for export grain produced in southern Turkey, as well as other commodities, to transit through Syria on the way to Iskenderun. This will probably mean an annual loss in gross revenues of a little over £S 2 million for the Northern Railway. Even though the loss may be partially offset by a decline in operating expenses and it may prove feasible to recoup some revenue by increasing freight rates for Syrian goods, it is probable that the government will have to meet an additional deficit of at least £S 1 million a year.

Besides these operating subventions to the railways, the government will apparently be spending some £S 5 million for the acquisition of the Syrian portions of the DHP network. Negotiations for the purchase of these lines and a corresponding amount of rolling stock have been in [155] progress for some time and will probably be completed before long. They were dictated partly by the government's desire to own all the railways on Syrian soil and partly by its belief that Syrian operation would result in economies, particularly by reduction of overhead expenses. The latter objective may well be realized for the standard-gauge lines which are to be incorporated into the Northern Railway. It is more doubtful that significant economies will be achieved by taking over the Syrian portion of the narrow-gauge Damascus-Beirut line, which should logically be turned over to the Hedjaz Railway for operation.

In view of the rather low volume of traffic and the deficit character of the railway operation, the mission has considered whether it would not be advisable to abandon certain railway lines, particularly the Beirut-Damascus and Hedjaz Railways. For a number of reasons we have concluded that such a course would be unwise. Abandonment of the Beirut-Damascus line would increase by about 5-10% truck traffic on the parallel road, which is already becoming overburdened. Local passenger traffic would also have to be transferred to the road. It has already been pointed out that the two lines mentioned serve primarily as a transit artery for Jordan; their closing might therefore seriously affect the Jordanian econ-

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omy. True, Jordanians have frequently complained of Syrian government 496 regulations which, in an effort to support the Hedjaz Railway, have prohibited transit traffic by truck of most goods. While some categories of goods, notably perishables and petroleum products, are exempt from this prohibition, there is little doubt that more traffic would move by road if the prohibition were entirely lifted. At the same time, Jordan may be able to import and export some bulky commodities more advantageously by rail; Jordan's own port an the Gulf of Akaba has no rail connection and is by no means as advantageously situated with respect to trade with Europe as Beirut. In the circumstances, we would suggest that the subject of transit and the relationship of the rail lines thereto be fully and frankly discussed by representatives of the Jordanian, Syrian and Lebanese governments. Their common interest in the maintenance of the railway lines and the possibilities of more efficient and economical operation can then be thoroughly examined. It may be feasible to reduce operating costs by agreed economies and to raise revenues through certain selective increases in freight rates. In some respects, for instance, freight rates on the Hedjaz Railway seem to be lower than those on the DHP line. In the long run it appears unwise to make shippers support the railway by insisting that they use it for transport of certain commodities. If the railway must be maintained owing to considerations which are partly non-economic, it would be better to have the governments concerned share the entire deficit resulting from its continued operation.

Road Transport[28]

With traffic on the railways no greater than prewar, it is apparent that 444 motor transport has captured all of the substantial increase in the amount of goods produced and traded in the Syrian economy over the last decade and a half. The Syrian road network increased from 4,500 kilometers in [491] 1939 to 8,200 in 1952, and the length of hard-surface (macadam and asphalt) from 1,500 to 3,800 kilometers. This includes only so-called "all-weather" roads; with the addition of those not traversable in the wet season the total length is over 10,000 kilometers. The number of motor vehicles of all [493] kinds on the roads rose from 3,736 in 1939 to 13,146 in 1953; the number of trucks increased from 873 to 4,742 and of buses from 348 to 1,212. In part the rapid growth of road transport was caused by the lack of adequate

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[28] See Annex H, p. 436.

494 rail facilities on the principal routes along which commodities had to be moved in growing volume, such as from the Jezireh to Aleppo and Latakia. Unquestionably, also, transport over poor roads has been costly, entailing heavy depreciation and not infrequent interruptions of traffic.

II PRINCIPAL TRANSPORT ROUTES

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489 For an understanding of the transport problems confronting Syria it is also necessary to outline the principal routes over which traffic must move. One of the main transport lines is the north-south axis connecting Damascus with Homs, Hama and Aleppo to the north and with the Hauran, Djebel Druze and Jordan to the south. Crossing this axis in a west-easterly direction are three principal communication lines running from the three ports serving Syria—Beirut and Tripoli in Lebanon and Latakia in northwestern Syria. Of these three ports Tripoli is by far the least important, serving only the region immediately around Homs. Beirut is still an important port of entry for Syrian imports, although the volume handled by Latakia has been rising steadily. Through Latakia, however, goes the bulk of Syria's exports.

The west-east communications lines continue in a generally easterly direction after crossing the north-south axis at Aleppo, Homs and Damascus. Those continuing east of Aleppo and serving the Jezireh and the narrow but fertile irrigated lands of the Euphrates are by far the most important. On the other hand, the road or track running east from Homs through the Syrian desert is of little importance except for serving and patrolling the pipelines conveying oil from Iraq to the port of Banias in Syria and to Tripoli. Of somewhat greater significance is the trans-desert route from Damascus to Baghdad. Although for the most part only a track, it provides an all-weather route over which traffic can move between Lebanon and Syria on the one hand and Iraq and even Iran and Kuwait on the other hand. Over this route the well-known Nairo Transport Company carries on an active international passenger traffic with modern buses and a number of trucking concerns haul high cost products such as fruits and vegetables, machinery and rugs. No special urgency attaches to the improvement of the two routes running eastward from Homs and Damascus, however, and no further consideration will be given to them in this report.

The First Priority: Latakia-Aleppo-Jezireh

The most urgent transport problem centers around the improvement 489 of communications between Latakia and Aleppo and the Jezireh. The rapid development of northern and particularly northeastern Syria has made the east-west communication lines across this part of the country by far the most important arteries for the movement of bulk commodities. The Jezireh produces most of Syria's wheat export surplus, and the Jezireh, the Euphrates valley, and the Aleppo-Hama-Homs region contribute together nearly all of the country's barley exports. The same areas produce virtually all Syria's cotton, which has attained considerable volume over the last four years. Finally, northern Syria is to some extent, and can become even more, a transit zone between the Mediterranean and Iraq.

Some indication of the importance of the communications lines across northern Syria is given by the volume of goods handled in Latakia. Export traffic through this port rose from 13,700 tons in 1947 to 353,396 tons in 1953; in 1954 it was 630,720 tons. Of the 1953 tonnage, 62% consisted of wheat and barley and 21% of cotton, cottonseeds and cotton meal. The volume of imports has also grown rapidly—from 5,200 tons in 1947 to 176,364 tons in 1953 and to 208,343 tons in 1954.

From the east, principally the Jezireh, the volume of transport is even greater, approximating probably 500,000 tons annually in recent years. In the reverse direction, however, freight movement is much more modest—apparently less than 50,000 tons.

Transport conditions over these vital arteries are far from satisfactory. 489
Latakia and Aleppo are linked by a metalled road over the Alaouit mountains 491 which is much too narrow for the rapidly increasing truck traffic and is occasionally blocked by landslides. The road surface is not adapted to heavy truck traffic and is poorly maintained in many sections. From Aleppo an asphalt road runs eastward to Raqqa on the Euphrates river and continues down the river valley to Deir ez Zor, where it turns into a track leading to Abou Kemal on the Iraqi frontier. From Deir ez Zor there is a road north to Kamichliye via Hassetche, but the surface is for the most part so bad that traffic moves along parallel tracks. The truck route from the Jezireh does not, however, go through Deir ez Zor, but runs more directly from Km. 47 on the Hassetche-Deir ez Zor road along a cross-country track to Raqqa. The feeders to these main routes are also tracks which become impassable during the rainy season.

As already indicated, the Jezireh is also served by the international railway which criss-crosses the frontier. It is difficult to use because the three railway administrations controlling it do not cooperate effectively, and crucial seasonal shortages of freight cars often hold up grain movements. By and large the railway assists only in the transport of commodities produced in a narrow belt along the frontier. While the railway annually transports between 150,000 and 200,000 tons of the Jezireh's agricultural output, much more moves by road.

The cost of transport across northern Syria is very burdensome and motor transport rates are subject to sharp seasonal fluctuations. In part, of course, this is caused by the unavoidably seasonal nature of the agricultural products traffic and the lack of adequate return cargo to the Jezireh. The very fact, however, that the Jezireh roads are impassable during much of the winter rainy season greatly accentuates the seasonal movement and necessitates a larger investment in trucks. Under such circumstances truck operators charge what the traffic will bear. During the harvest season it costs £S 40-50 per ton to transport grain from Kamichliye or Hassetche to Aleppo and about £S 25-30 from Ras el Ain to Aleppo. During the "dead season," such as the spring, following the rainy season, these rates are almost halved. The high rates are caused in part, of course, by the heavy maintenance and depreciation charges for trucks. On the railway the freight rate for grain from the Jezireh to Aleppo is the same the year around, about £S 25 per ton.

During most of the postwar period agricultural prices have been high, providing sufficient incentive to an expansion of production in areas remote from the port despite high transport costs. With the marked decline in prices during the last few years, however, the burden on the producers has become progressively more severe. Since transport and handling charges remained the same, they received a smaller proportion of the falling export price at the port. In 1953 transport charges of £S 50-60 per ton from the Jezireh to Latakia represented about a third of the f.o.b. export price of barley and somewhat more than a fifth of that of wheat. At the same time transport adds to the cost of production. Thus in the Jezireh gas oil for tractors and irrigation pumps is about 75-100% more expensive than at Homs and gasoline for harvesting combines is 20-25% higher.

The mission has given much thought to the question of how the transport problem in the north of Syria might most effectively be solved. Since the construction of a railway linking the Jezireh with Aleppo and Latakia has many proponents and a number of railway projects have been proposed in the past, we carefully considered the advisability of a railway line.[29] Railroads between Aleppo and Latakia on the one hand and Aleppo and the Jezireh on the other hand have generally been independently projected, but the mission believes one should not in the long run be contemplated without the other, for otherwise the maximum advantage of a through line to the port, avoiding costly transshipment at Aleppo, would not be realized.

The volume of traffic moving between the Jezireh and Aleppo and Latakia appears to make a railway economically attractive. In the westerly direction toward Aleppo there is an actual or potential flow of around 700,000 tons per year, if Iraqi transit trade is included, and from Aleppo to Latakia probably about 500,000 tons. In the reverse direction the volume might be 150,000 and 250,000 tons respectively. Of course, by no means all of this traffic would necessarily be captured by a new railway line. Some would continue to be carried by the existing railway, and some, particularly the higher cost "import cargo" and the "export cargo" originating at points more or less remote from the railway, would no doubt still be transported by truck. A new railway might count on carrying perhaps two-thirds of the available cargo. On this assumption the traffic handled by a new Jezireh railway, linked with the Iraqi railway at, say, Tell Kotchek, might well be somewhat over 400 million ton-kilometers per year, or about three times as much as the traffic on all railways in Syria during 1935.

The construction of a railway, however, requires a heavy capital investment. To build and equip a railway from Aleppo to Latakia over difficult terrain would probably cost about £S 80 million, and a line from Aleppo to Tell Kotchek might cost approximately £S 90 million, a total of about £S 170 million. On the other hand, the cost of improving and partially realigning the Aleppo-Latakia highway is estimated at £S 7.4 million; a proper road network linking the Jezireh with Aleppo would cost, according to Syrian government estimates, about £S 50 million (including £S 3.4 million for widening the existing Aleppo-Raqqa road); and an investment of £S 40 million would be required to handle by truck the volume of traffic indicated for the railway. Thus the investment in a railway would be about £S 73 million more than would be required for

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[29] See Annex H, p. 430.

489 corresponding road facilities. Actually, the difference is likely to be greater, for the need to build feeder roads to the railway and to improve the trunk highways would probably make a considerable investment in roads necessary in any event. However, investment in road vehicles which would be required to handle the rail traffic would be saved. Thus the additional investment entailed by the construction of a railway might be in the neighborhood of £S 100 to 110 million.

In terms of depreciation, maintenance and fuel, railway transport would cost the economy substantially less than road transport. On the basis of the anticipated traffic volume, the mission has estimated the annual savings in cost at between £S 15 million and £S 20 million. The additional investment of £S 100 million to £S 110 million might therefore be said to contribute between £S 15 million and £S 20 million to national income annually. A railway could no doubt reduce transport charges below existing levels and still earn some return on the investment.

Nevertheless, the mission is strongly convinced that it would be unwise to undertake the construction of a railway within the next five or six years. Our principal reason is that the government could find the necessary capital only at the expense of other needed investments likely to make a greater contribution to national income. We have sought in this report to recommend a balanced development program within the limits of the financial resources available. If provision is to be made for the construction of a railway, it would be necessary to curtail drastically proposed outlays in other fields of development. For instance, it would probably be necessary to eliminate a considerable amount of the irrigation program we have proposed. The substitution of a railway project for irrigation works could only result in a loss to the Syrian economy. The mission estimates that, on the average, irrigation projects would make almost twice as large a direct contribution to national income as would the proposed railway. Moreover, an increase in primary production through irrigation and reclamation is likely to bring about a larger indirect expansion in national income, particularly in the commercial and transport sectors. A secondary reason for the mission's view is that private enterprise is willing to undertake the necessary investment in road transport, other than for the roads themselves, whereas the government would have to shoulder the entire burden of a railway investment. In a country where it is very difficult for the government to mobilize private capital for the financing of public investments, this is an important consideration. If and when it becomes easier to do so, and alternative investment opportunities become less attractive, 499 the question of building a railway might well be reviewed.

The mission would be more favorably disposed to a railway if there were no alternative means of reducing the present high transport rates between the Jezireh and Aleppo and Latakia. However, the building of good, all-weather roads, supplemented by the construction of grain storage facilities in the Jezireh, should make it possible to lower transport charges significantly by reducing truck maintenance and depreciation costs and somewhat diminishing seasonal transport peaks. The mission recommends, therefore, that the government undertake this task as a matter of high priority.

To this end the following program should be carried out within the 499
next five or six years: 653

1. *Improvement and partial realignment of the Aleppo-Latakia road.* The improvement and widening of this road is imperative, and since topographic conditions make widening of certain sections impossible, an entirely new road must be built in part. A new road, for example, will be necessary for a distance of some 30 kilometers west of Jisr ech Choghour. Improvement of the section south of Idlib and crossing the Djebel Zâouiye would also be extremely difficult. The mission recommends strongly that this stretch be replaced by a north-south road running through the Roudj. Such a road would not only avoid most of the mountainous terrain but would simultaneously serve the new agricultural district of the Roudj. The cost of the entire project, including the new road construction, is tentatively estimated at £S 7.37 million.

2. *Improvement and widening of the Aleppo-Raqqa road.* This road, 190 kilometers long and part of the trunk highway to the Jezireh, has an asphalt surface only four to five meters wide. In line with recent proposals made by the Syrian government, the mission suggests its widening to six meters, with a two-meter berth on each side. The government has estimated the cost at £S 3.38 million.

3. *Construction of a new road connecting Raqqa with Kamichliye, via Kantari, Tell Tamer and Tloul Mohammed, and continuing from Kamichliye, via Demir Kapu and Deirik, to Ain Divar on the Syrian-Turkish frontier* (total length: 362 km). Unlike earlier proposals, the road we recommend would not follow the present truck route between Raqqa and Km. 47 on the Hassetche-Deir ez Zor road, but would run north of the Djebel Aabd el Aaziz. In this way it would tap a much larger agricultural

477 region, including the dry-farming area south of Ras el Ain and the irri-
653 gated area in the Khabour river valley. It would be advisable to start the construction of the Kamichliye-Ain Divar section first, because this rich agricultural region of heavy rainfall is now the most inaccessible part of the Jezireh. To feed the trunk highway the mission also recommends the construction of the following roads: (1) Ras el Ain-Hassetche, crossing the main highway at or near Tell Tamer (73 km); (2) Hassetche-Tloul Mohammed (60 km), thus linking the provincial capital with Kamichliye, the region's commercial center; (3) Derbassiye-main road (30 km); (4) Demir Kapu-Tell Kotchek (30 km); and (5) much farther to the west, Tell Abiad-Kantari (46 km). The first two are considered the more important. In general this proposed road network conforms to the most recently expressed views of the Syrian government, which has tentatively estimated the cost, pending engineering surveys, at about £S 46 million.

North-South Communications

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491 We turn now to a consideration of the other principal transport routes.
499 With respect to the north-south transport axis, improvement of communications between Aleppo and Damascus is most important. A direct standard-gauge railway link between these cities has often been proposed, either by the laying of an additional rail on the narrow-gauge line from Damascus to the junction with the standard-gauge line at Rayak in Lebanon or by the building of a new railway from Damascus to Homs, where it would connect with the DHP line to Aleppo. The mission is convinced, however, that the volume of bulk goods suitable for rail transport moving between Aleppo and Damascus is far too small to justify the large investment required, at least £S 18 million for the former and £S 36 million for the latter project. The solution is rather to improve and widen the Aleppo-Damascus road. The section between Hama and Aleppo urgently demands improvement, and the entire road should be widened by at least one meter to permit easier flow of two-way vehicular traffic. The cost of widening would probably be about £S 10,000 per kilometer or a total of about £S 4 million.

The transport route south from Damascus to Dera'a and the Jordanian frontier is served both by road and the Hedjaz Railway. The problems of the latter have already been discussed. The road, although not as well

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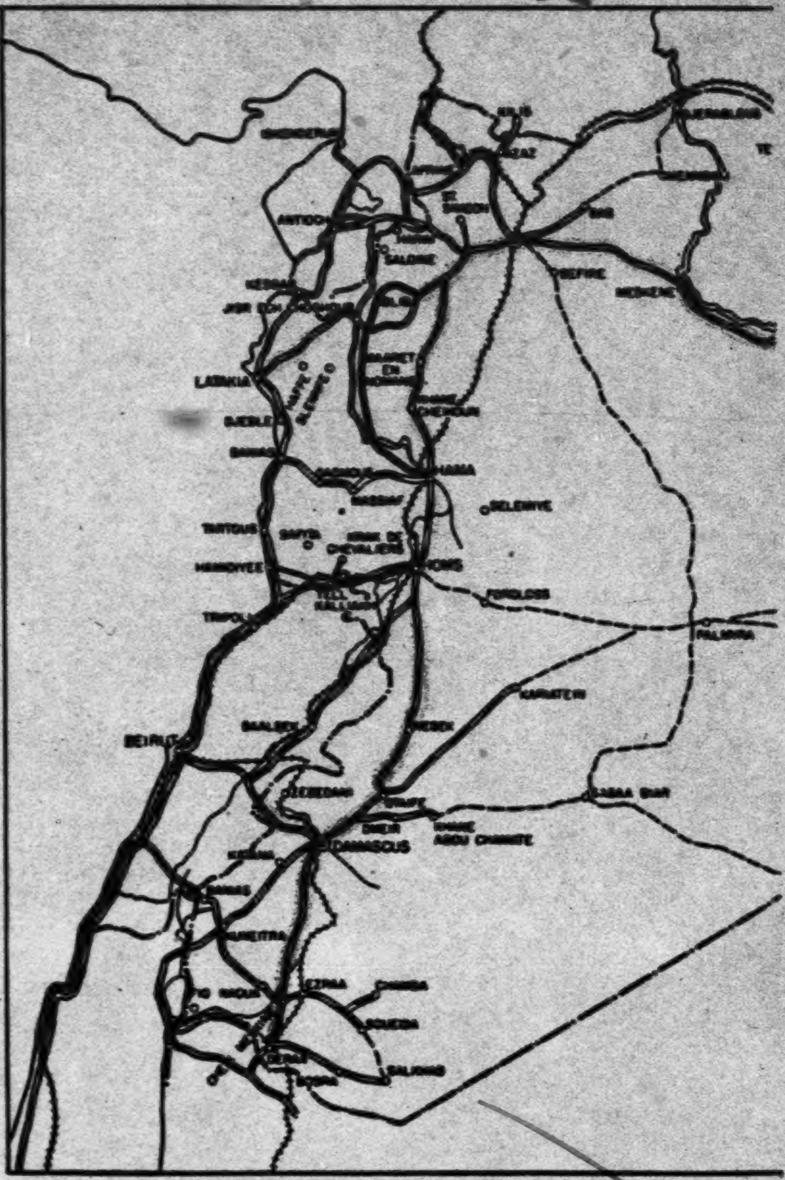
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HAMA
SELEMIYE
TARTOUS
SAFITA
KRAK DE CHEVALIERS
HOMS
TELL KALAKH
TRIPOLI
PALMYRA
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NEBEK
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BEIRUT
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FOLLOWING P. 140(A)

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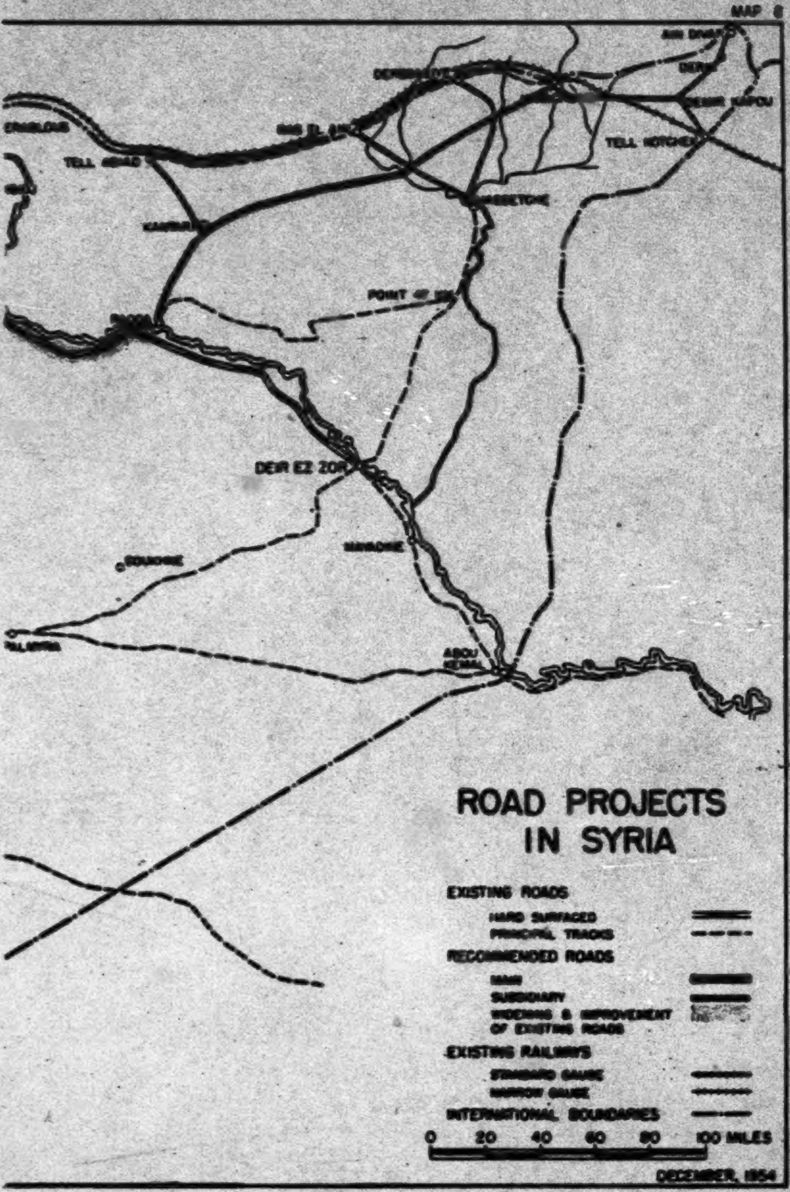
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ABOU KEMAL
ROAD PROJECTS IN SYRIA
EXISTING ROADS
HARD SURFACED
PRINCIPAL TRACKS
RECOMMENDED ROADS
MAIN
SUBSIDIARY
WIDENING & IMPROVEMENT OF EXISTING ROADS
EXISTING RAILWAYS
STANDARD GAUGE
NARROW GAUGE
INTERNATIONAL BOUNDARIES
0
20
40
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80
100 MILES
DECEMBER, 1954

FOLLOWING P. 140 (B)

489 travelled as the one to Aleppo, is still important for the transport of Syrian
491 agricultural products and petroleum products destined for Jordan. The
499 very bad section between Cheikh Meskine and Dera'a requires early attention, and the entire road should be widened by one meter after the completion of the Damascus-Aleppo road project. The mission estimates the total cost involved at £S 1.3 million.

Other Road Projects

Together with the Latakia-Aleppo-Jezireh road, the route between Damascus and Beirut is the most important to the Syrian economy. In fact the traffic on the Beirut-Damascus road is denser and steadier than that on the Latakia-Aleppo road. An urgent program to improve the surface of this road should be undertaken by the two countries concerned. For the improvement of the 35-kilometer section in Syrian territory, the mission anticipates that £S 1.05 million will need to be spent. It can be expected, however, that before many years more thorough-going measures will be necessary to accommodate the constantly growing traffic. To meet this longer-term need, proposals have been made to build a new road paralleling the old one and to construct a long tunnel at Hamana to bypass the most dangerous section across the Lebanon range, where traffic is often held up by fog and snow. The total cost has been estimated at £S 29 million, presumably to be shared by Syria and Lebanon. Parallel highways would certainly permit a great increase in traffic and would considerably reduce the prevailing high accident rate, by making possible the accommodation of slow-moving truck traffic and high-speed vehicular traffic on separate roads. Since the problem is not immediately urgent and the best solution remains to be worked out in detail, the mission considers it unnecessary to make specific proposals. It suggests, instead, that over the next five years the two governments jointly finance an engineering survey of the problem in order to prepare definite plans; an expenditure of £S 100,000 by each government should suffice.

The third most important transversal connection with the Mediterranean is that between Homs and Tripoli, served both by the DHP railway and by road. The road is of some importance, but several sections are in bad condition, particularly the 10-15 kilometer section just west of Homs and a shorter section passing through Lebanon before coming to Tell Kalakh. Improvement of this road, however, can probably be handled

491 within the framework of the maintenance program proposed below. It is
491 important that the Syrian and Lebanese governments come to an agree-
491 ment on better maintenance of the section before Tell Kalakh.

Aside from the trunk highways discussed above, the mission has considered certain special road projects, including two which would provide better links between Homs and Hama on the one hand and the Syrian coast and Latakia on the other. Fundamental improvement of the road from Hama to Banias whence a road runs north to Latakia has sometimes been proposed. The mission believes a more economical solution would be to build a link between Hama and the main north-south road running through the Ghab for which provision has already been made in the Ghab project. The Ghab road would in turn connect with the Aleppo-Latakia highway. We have accordingly included £S 1.5 million for the building of this link in the program recommended for the next five or six years. Homs is now linked with the Syrian coast by a poor and rather circuitous road which branches off from the Homs-Tripoli highway at Tell Kalakh and passes through difficult terrain. It has been proposed, instead, to construct a shortcut between Akkari and Hamidiye which would connect with the coastal highway to Latakia and would cost about £S 1.8 million. In the mission's opinion, however, construction of this road is not very urgent, particularly since the Homs area is fairly well served by the port of Tripoli. The mission suggests, therefore, that it be built only toward the end of the program if funds are available.

Elsewhere the mission has pointed to the potential importance of the tourist trade. In order to stimulate this trade some of Syria's principal historical monuments such as the Krak des Chevaliers, the ruins of Saint Simeon, etc., should be made more accessible by road. The mission accordingly suggests that £S 1.5 million be allocated to construct such roads.

Road Maintenance[30]

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The construction of new roads will be of little avail if they are allowed to deteriorate quickly. By and large maintenance has been poor in the past, although apparently not because of inadequate appropriations. Over the five-year period 1949-1953 an average of £S 3.3 million annually was allocated for maintenance; in 1954 £S 5.8 million was so allocated. The latter amount, supplemented by increasing allowances for maintenance 491 of the new roads recommended, should basically be adequate for the future as well. Poor organization, inadequate supervision and dispersal of effort seem to have been responsible for the past unsatisfactory results. Maintenance work is not the responsibility of the Director of Transport, but falls under that of the Secretary-General of the Ministry of Public Works, who is too preoccupied to give it adequate attention. Supervision in the field is inadequate, partly because of insufficient engineers and partly because engineers are reluctant to leave their desks. Maintenance crews are too small and their work is seldom concentrated in such a way as to effect visible improvement. This aspect of road work certainly demands the urgent attention of the Syrian government, which might well seek foreign technical advice on better organization of maintenance. We urge the establishment of a special highway department in the Ministry of Public Works to look after both maintenance and new construction.

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[30] See Annex H, p. 439.

Some increase in the availability of maintenance machinery appears desirable. The machinery park now includes 59 rollers, 62 boilers and 24 mixers, but no graders or bulldozers. Many of the rollers are old and some are defective and too light. The mission has accordingly allowed £S 1 million for new machinery in its recommended program.

Regulation of Road Traffic

Better regulation of road traffic is another requirement for the improve- 494 ment of motor transport. A comprehensive road code exists, but there is virtually no policing to enforce it. Reckless driving is a common occurrence, and the accident rate appears to be excessive although no record is kept. Above all, chronic overloading of trucks wreaks havoc with road surfaces. As a minimum it is desirable to install a few weighing stations at key traffic centers to enforce loading regulations. Another cause for concern is the restrictive policy, originating with the French mandatory regime, which the government pursues in licensing common carrier trucks. Basically this policy provides that no new truck (other than tank trucks) will be licensed unless an old one is retired. Truck licenses, which are negotiable, therefore sell at a premium of £S 10,000 and more, and the number of commercial or common carrier trucks has tended to remain stationary while the number of private trucks has greatly increased. While the tendency toward even larger trucks has undoubtedly increased over-all

494 capacity significantly, the restrictive policy may have contributed to higher trucking charges. Recently there has been some relaxation of the restrictions. The mission concedes that in principle it might be desirable to regulate the number of trucks in order to prevent excessive investment in road transport. The government, however, has little knowledge about the adequacy of the number of trucks to guide it in applying such a regulation, and it would be better to achieve the objective indirectly by charging a high fee for new truck licenses, as is done in the case of tank trucks.

III PORTS

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One of the most important transport projects undertaken by the Syrian government in recent years is the construction of the port of Latakia. This is Syria's only real port other than Banias, which handles just the oil coming in over the pipeline from the oilfields in northern Iraq. The decision to create a port at Latakia was formally taken early in 1950 when a company, capitalized at £S 24 million, was formed to establish and operate the port. Nearly all of the capital has been furnished by the government; private capital has subscribed only 10%, despite a government guarantee of a 5% dividend.

Natural conditions at Latakia, as indeed along most of the eastern Mediterranean coast, are not particularly favorable to a port. There is no natural harbor and heavy winds from January to March impede port operations. For this reason, the principal feature of the port program is the construction of a breakwater and the deepening of the basin behind it. Other features call for the construction of quays and warehouses with a capacity of 15,000 cubic meters and the installation of cargo-handling equipment. Work on the breakwater and quays is proceeding and plans for the equipment of the port are being perfected. The breakwater and quays should be finished in 1956 and the remainder of the work in the following year. To complete these plans will probably entail a further outlay [488] of £S 38 million over the coming years. Plans at this stage do not provide for the building of a grain silo. The mission's sole recommendation is that this omission be remedied, since in our opinion the installation of mechanized grain handling equipment is imperative in a port where the bulk of the traffic consists of cereals.

Meanwhile, as previously indicated, the volume of cargo handled by the port has been increasing rapidly. To some extent this has been promoted by government regulations which direct certain classes of imports and exports via Latakia. It should be noted, however, that these have not seriously interfered with the traditional traffic between Beirut and Damascus and southern Syria. For the most part they buttress a traffic flow which would in any event tend via Latakia as the natural port for northern Syria. At present cargo must still be lightered but, considering this circumstance, cargo handling is fairly rapid. The port company appears to be well managed and in recent years has earned, on its paid-in capital, a modest profit which rose to over 5% in 1953. With the completion of the port, it should prove possible to reduce handling costs substantially. 504

IV CIVIL AVIATION

Supplementing rail and road transport, there is a domestic air service 509 655 linking Damascus with Aleppo, Kamichliye and Latakia. It is operated with a DC-3 by the Syrian Airways, an autonomous government enterprise dependent on the Ministry of Finance. The financial results of this operation have not been divulged publicly, but it is evidently not self-supporting. The government regards it primarily as a promotional venture and the tariffs are correspondingly low. It must be recognized that occasional rapid air communication between the principal cities is desirable, and the mission accordingly anticipates that a new twin-motor plane, costing perhaps £S 600,000 may soon be needed to maintain this service.

Damascus is the country's principal airport and is served by a number 508 of international airlines. Considerable amounts have been spent on the improvement and equipment of this airport which has been given a Class B designation by the ICAO. Of the £S 1.075 million provided in the 1954 budget for airport construction, equipment and maintenance, over 70% was destined for Damascus. In view of the many more urgent tasks confronting the government, we see no justification for the proposal to construct an entirely new airport for Damascus. By continuing about the same level of expenditures in the future as in recent years, the government should be able to make the requisite improvements in existing airports, which include, besides Damascus, a Class C airport at Aleppo, a Class G airfield at Kamichliye and an airport as yet unclassified at Deir ez Zor.

V MUNICIPAL TRANSPORT

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Brief mention should be made of the urban transport services in Damascus and Aleppo. In Damascus the tramways are operated by a company nationalized in 1951, whose principal business is the generation and distribution of electric power. The tram service, plagued by low fares and relatively high operating costs, has been running heavy deficits and steadily losing ground to buses, which are operated on a coordinated basis by a large number of owners who pool their receipts for the purpose of meeting certain common expenses. For this reason the company has advanced proposals to buy out the private buses at a cost of about £S 2 million and gradually to substitute new buses at an additional cost of £S 2 million. The mission, however, strongly advises against the use of basically public funds for this purpose, since the buses now appear to be efficiently operated by private enterprise.

In Aleppo the power company, likewise nationalized in 1951, has a monopoly on the operation of both buses and trams. In contrast to the Damascus company, however, it is operating both these services at a modest profit while maintaining moderate fares.

VI TELECOMMUNICATIONS

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It is, of course, important that not only transport but also communications facilities expand with a growing economy. In Syria a program for the improvement of telecommunications has long been under way. During the eight-year period 1946-1953, almost £S 31 million was invested in telecommunications, particularly in the expansion of the telephone network and the installation of automatic telephones. In fact, the amount invested for this purpose might be said to be disproportionate to most other fields of public investment. The results, however, have been conspicuous. The number of telephone subscribers has risen from 9,000 in 1949 to 21,218 in 1953, the number of telephone offices from 100 to 132, and the number of telephone circuits from 161 to 379. The Syrian telephone system is now substantially better than that of most neighboring countries.

The postal, telegraph and telephone administration plans to spend a sum of £S 14.317 million over the next five years on the further improvement of telecommunications. The mission had no one of special competence to appraise this program. In view of the many other claims on public 206 funds, however, it suggests that the program be reviewed to reduce the target expenditures to about £S 10 million. In this review the highest priority might be given to the expansion of the telephone network in cities which are experiencing a rapid growth such as Kamichliye, Aleppo and Latakia, and to the improvement of interurban connections. The contemplated construction and equipment of a new transmitter for international communications might be given a lower priority.

VII PROPOSED EXPENDITURES

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Table 7 provides a projection of government expenditures on transport and communications over the six-year period 1955-1960. This projection takes into account not only the recommendations of the mission but also expenditures, such as those on railways and on road maintenance, which are determined by force of circumstance or the declared intentions of the Syrian government. The heavy increase in expenditures proposed reflects in major part the need to overcome the lag in transport facilities which handicaps the Syrian economy today.

TABLE 7 Past and Projected Expenditures on Transport and Communications

(Thousand £S)

	Past outlays			Projected outlays, 1955–60	
	Av. 1950–52 (actual)	1953 (estimate)	1954 (estimate)	Annual average	Total
Roads (total)	5,078	5,380	9,278	17,125	102,750
Construction and improvement (total)				11,008	66,050
Latakia-Aleppo				1,228	7,370
Aleppo-Raqqa				580	3,480
Raqqa-Jezireh				7,625	45,750
Hama-Ghab				250	1,500
Aleppo-Damascus				667	4,000
Damascus-Dera'a				217	1,300

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TABLE 7 Past and Projected Expenditures on Transport and Communications

(Continued from page 147) (*Thousand £S*)

	Past outlays			Projected outlays, 1955–60	
	Av. 1950–52 (actual)	1953 (estimate)	1954 (estimate)	Annual average	Total
Damascus-Beirut				192	1,150
Tourist roads				[a]	[a]
Maintenance	3,233	3,600	5,800	6,117	36,700
Latakia port	373	500	10,000[c]	6,333	38,000
Railways (total)	641	750	1,209	2,833	17,000
Subventions	641	750	1,209	2,000	12,000
Purchase of DHP lines				833	5,000
Telecommunications	4,114	2,350[b]	4,700[c]	1,667	10,000
Grand total	10,206	8,980	25,187[c]	28,875	173,250

[a] Included in tourist program.

[b] Actual.

[c] Amounts include authorizations unlikely to be spent and are thus not comparable with preceding years.

CHAPTER 7

EDUCATION, PUBLIC HEALTH AND HOUSING

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The amount of resources which should be devoted in any development program to education, health, housing and related community services and facilities will always be a matter of controversy. Expenditures in these fields do not necessarily bear a direct or fixed relationship to outlays on agriculture, industry, transport and communications, and power. Their actual or proposed magnitude is largely a reflection of judgment and social philosophy. It is generally conceded, however, that better education, health and housing are not only in themselves objectives of development, but are also important means, however indirect, of raising production and standards of living. It is a truism that an expansion and improvement of educational opportunities is indispensable to economic progress as well as to the development of stable and free political institutions. Similarly, a healthy and vigorous population is better equipped to deal with the task of increasing production. At the same time, the cost of expanding education, health and other social services can be borne only if the production base of the economy is steadily broadened. Thus a reduction in mortality rates may create problems unless productive resources can be developed at a pace sufficient to support a more rapidly growing population, and substantial improvements in housing can be realized only if people can earn enough to afford them.

1 EDUCATION

Syria can view with pride the rapid expansion of education which has 871 taken place during the period of independence since the war. From 1945-46 to 1952-53 the number of children attending primary schools more than doubled and the number of pupils in intermediate and secondary schools almost quadrupled. The proportion of literates in the population—probably around 40%—compares favorably with that of other Arabic countries as well as that in Asia generally, and with the existing school attendance literacy may be expected to improve significantly within the next generation.

There are, however, certain deficiencies in the educational system on which any future program must focus. More attention should be paid to the quality of education and particularly to improving the curriculum and methods of instruction. Better and more extensive facilities for vocational education ought to be provided, and a program of fundamental education for adults should be initiated.

Primary, Intermediate and Secondary Education[21]

The lack of data on the age composition of the population makes it impossible to estimate accurately the proportion of school-age children who actually go to school. One may hazard the guess that a little less than 60% of the children attend primary schools and probably about 10% go to intermediate and secondary schools. While perhaps 80% of the boys go to primary schools, the proportion of girls in such schools is still only about 30%, even though the prejudice against education of girls is being gradually overcome.

It is unlikely that school attendance will continue to increase as quickly as in the past. Prevailing low standards of living will undoubtedly keep many children out of school; economic pressure is probably responsible for the fact that perhaps 30% to 40% of children drop out of primary school before they finish. It will also be difficult to increase school attendance in areas where the population is rather sparse and scattered. Thus school attendance appears to be poorest in the rather thinly populated province of Jezireh.

In projecting expenditures on education the mission has accordingly adopted the assumption that the number of children attending primary, intermediate and secondary schools will increase at an average annual rate of 6% over the next six years. Initially the rate of increase may be higher than 6%, but toward the end of the period it may be expected to be lower. This compares with an average annual rate of 12% from 1945-46 to 1952-53, of 14% from 1950-51 to 1951-52, and of 6% from 1951-52 to 1952-53. On the basis of our assumption, total school attendance would rise from about 399,000 in 1955-56 to approximately 536,000 in 1960-61; and, if the

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[21] See Annex I, p. 456 *et seq.*

proportion of children attending private schools remains the same, public 871
school attendance would increase from 307,000 to 413,000.

The rapid expansion of educational facilities has quite rightly received first priority in the past. In the future, however, further growth in school attendance will be somewhat less important than the task of improving the quality of education and adapting it to the country's needs.

In general the content of education in any developing society must be such as to equip people to cope more effectively with the practical, everyday problems of modern life. These relate not only to the task of earning a better living but also to the need for relating the curriculum of the school more closely to the activities of the community, and for improving its living conditions. According to the testimony of many Syrians there is an urgent need to give education a more practical content. The existing curriculum is too academic and general in character. Methods of teaching must be improved and more emphasis given to the sciences, economics and civics. Pupils must be given more knowledge and understanding about the economic, social and political problems of their environment. Without making education exclusively vocational, it can be given some vocational bias. In rural schools, for example, there can be more stress on agriculture, animal husbandry, sanitation and hygiene. In all schools—primary, intermediate and secondary—more attention might well be devoted to creative manual work, if only to inculcate a greater respect for manual labor. A legal training is still generally considered essential for government service, even though the operations of modern government demand much more technical and economic knowledge.

Current methods of instruction do not appear to stimulate the intellect 876
sufficiently; the principal aim is evidently to impart enough knowledge to enable the student to pass examinations for school certificates or diplomas. There is an excessive emphasis on memorizing. Teaching is rather authoritarian in character: the teacher lectures, and the student is expected to accept what he is taught without challenge or discussion. Even in the University, little discussion and debate is invited. Thus independent inquiry and intellectual curiosity tend to be discouraged, and analytical ability is not sufficiently developed through discussion.

Any fundamental reform in both the curriculum and the methods of 871
teaching will probably have to be effected largely through the teachers' training colleges. The mission can point to these problems but it is not competent to suggest how they might best be solved. It can only recom-

871 mend that they be studied, perhaps in collaboration with experts supplied by UNESCO.

In one respect this problem has already received growing recognition in Syria. Since 1949, for example, the Ministry of Education has established 111 special rural elementary schools in various parts of the country. In the fourth and fifth grades of such schools, pupils receive some instruction in the basic principles and techniques of agriculture. Each school has a garden in which children can apply their knowledge. Specially trained instructors have been supplied by the Ministry of Education. While the mission had no opportunity to appraise these schools, it considers that they represent a commendable effort to relate education to the problems of rural life. In principle it would seem desirable to establish more schools of this type as educational facilities are expanded.

Vocational Education[82]

874 Vocational education has been comparatively neglected, even though the need for sound practical training in commerce, banking, industry and agriculture has greatly increased. Aside from the agricultural schools, the government operates six vocational schools: two technical schools of intermediate and secondary grade in Damascus and Aleppo; two intermediate technical schools at Hama and Deir ez Zor; and two secondary commercial schools in Damascus and Aleppo. In these and two private institutions, 1,676 students were enrolled in the year 1952-53. The government recently started, on an experimental basis, three apprenticeship schools designed to provide three years of purely vocational training to elementary school graduates. Two of these have been established, respectively for boys and for girls, in Damascus, and the third, for boys, in Aleppo.

Since the mission has dealt with agricultural schools elsewhere, the discussion here will be confined to other vocational schools. In general the vocational school system suffers from inadequate facilities and equipment, a lack of sufficiently trained teachers, and a failure to adapt the training and instruction to the requirements of industry and commerce. There is a tendency to look down on vocational education. Generally only those who for one reason or another cannot attend the regular schools turn to vocational institutions. At the same time the business community takes almost

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[82] See Annex I, p. 459.

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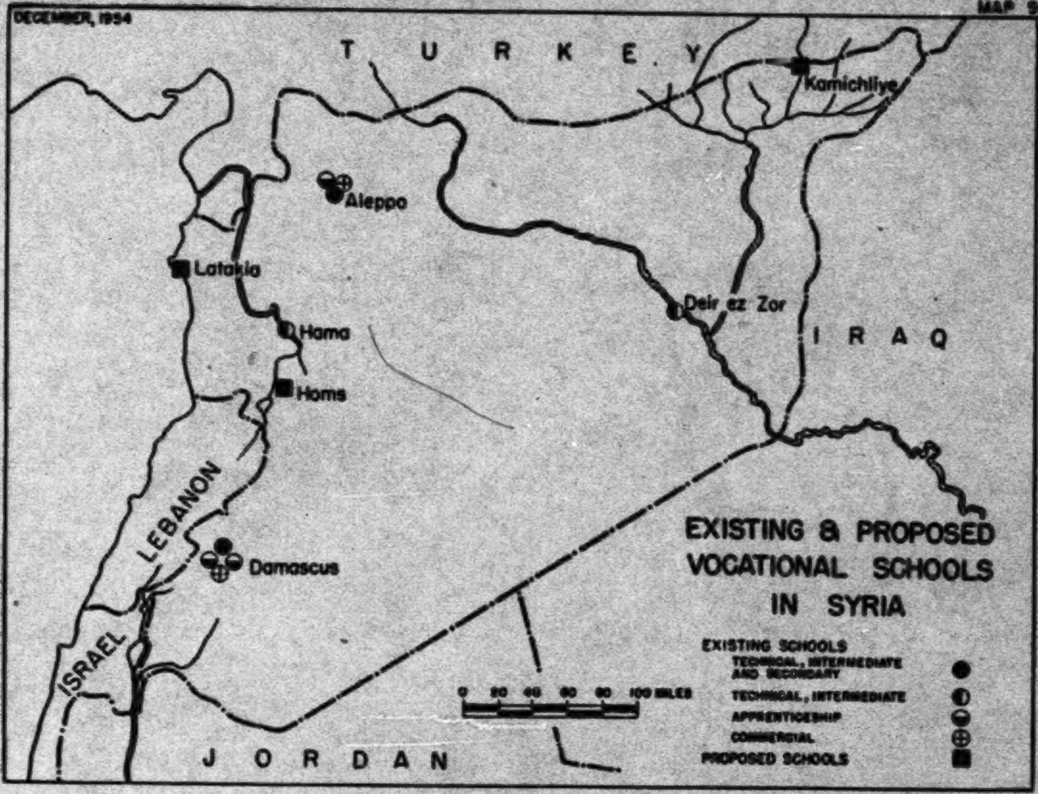
DECEMBER, 1954
MAP 9
TURKEY
Kamichliye
Aleppo
Latakia
Hama
Homs
Deir ez Zor
IRAQ
LEBANON
Damascus
ISRAEL
JORDAN
0 20 40 60 80 100 MILES
EXISTING & PROPOSED VOCATIONAL SCHOOLS IN SYRIA
EXISTING SCHOOLS
TECHNICAL, INTERMEDIATE AND SECONDARY ●
TECHNICAL, INTERMEDIATE ◐
APPRENTICESHIP ◒
COMMERCIAL ⊕
PROPOSED SCHOOLS ■

no interest in vocational schools, from which it has learned to expect very little.

Some improvement in the equipment of existing vocational schools should undoubtedly be undertaken. In recent years the budget has provided only between £S 100,000 and £S 150,000 annually for materials and equipment. The commercial school in Damascus is equipped only with typewriters; there are no other business machines, nor are class books provided. Many of the shops in the technical school at Damascus were found to be poorly equipped with machinery and tools. The acquisition of equipment, tools and textbooks must, however, be selective and accompanied by an improvement in the teaching staff and the type of instruction.

The mission recommends that two new secondary vocational schools be established, one at Homs and the other in Latakia. Both these cities are growing rapidly and are likely to witness a sharp increase in the demand for skilled workers and artisans. The institution at Homs is envisaged as not just another vocational school, but also as a center for training shop instructors and for experimenting in teaching techniques. For this reason the mission suggests that it be placed under a competent foreign director with wide experience in vocational training. Initially the staff of this school should exceed the long-term requirement, so that instructors may be trained for other schools, particularly for the one in Latakia which should open its doors about one year later than the Homs school. Many of the shop instructors in the existing schools might be given a period of training under expert supervision in the Homs school and be enabled to round out their experience in modern European factories. Many of these instructors are good, skilled workers, but they lack pedagogic training and in some cases sufficient experience with modern techniques.

It is important that people already working be enabled to get some vocational schooling at night. No opportunities for such schooling exist at present. We urge therefore that night classes be initiated at all the vocational schools and also, ultimately, at some of the regular schools in cities where vocational institutions are lacking. Facilities might initially be created for about 100 pupils and gradually extended to accommodate some 600 pupils by the sixth year.

Finally, the mission strongly recommends that a vocational education committee drawn largely from industry, commerce and banking be established to help ensure that the training and instruction imparted in the vocational schools really meets the requirements of the business community. No effort is now made to determine what happens to school graduates and how useful their training has been. It is generally recognized that their education simply does not meet the requirements. The law on technical education originally provided for the establishment of a committee consisting of representatives of the Ministry of Education, the Ministry of National Economy, the Chambers of Commerce and Industry and other economic interests. This committee was to determine the types of vocational education needed and generally to facilitate such training and the subsequent employment of school graduates. Unfortunately it met only once and was apparently allowed to die for want of interest on the part of the Ministry of Education. A continuing committee of this type should once more be established. Its functions should be to undertake a critical appraisal of curricula, equipment and teaching staff; to devise means of relating vocational school education to in-service training in factories, banks and commercial houses; to assist in establishing a check on graduates and the usefulness of their training; and to make periodic visits to vocational institutions. This committee should also be asked to review the utility of the apprenticeship schools. In our opinion these schools are unlikely to provide training which would not be better acquired in existing shops and factories.

Adult Education

Aside from the educational work carried on in the army and some literacy courses conducted by private societies, no facilities for adult education exist in Syria. The mission believes that a program of "fundamental" adult education should be started not simply to combat illiteracy, which is still high among adults, but especially to enable people to acquire the practical knowledge which will help them to improve living conditions through their own efforts. A program on a large scale would manifestly be impracticable in the near future. We suggest that it be initiated as part of the program for the gradual introduction of community workers into the villages, recommended elsewhere in this report. Existing school teachers can be used in the adult education program, although they would need special supplementary training, since the subject matter and methods of instruction would obviously be different from those in the regular schools. For this reason it would be necessary to introduce courses on fundamental education into the curriculum of teachers' training colleges. To get the

873 program off to a good start the services of an expert or a small mission should be requested from UNESCO which has accumulated considerable experience in techniques of fundamental education and which was active in Syria during 1952 and 1953 in the field of vocational training.

Higher Education

Higher education has made substantial progress. The Syrian University, which started in 1919 with schools of medicine and law, now includes also faculties of letters and of sciences, schools of pharmacy, dentistry and engineering and a Higher Teachers' Training College. In 1952-53 the University had 2,580 students. In Aleppo a school of engineering has also been established. Yet a further expansion and improvement of facilities will undoubtedly be necessary since the development program will sharply increase the demand for well-trained teachers, doctors, engineers, civil servants and other qualified personnel. The University will need more teachers, equipment, laboratories and libraries. Although many Syrians will inevitably have to go abroad for special types of training, Syria should be able gradually to provide broader opportunities for higher education at home. The mission suggests that the government appoint a special committee to draw up recommendations for improving and expanding the University in line with the requirements of the economic development program that might be adopted. Such recommendations will undoubtedly entail larger expenditures on higher education, which the mission has taken into account.

658 *School Building*

871 In recent years Syria has apparently been spending about £S 2.5 million annually on new schools. Of this amount, approximately £S 1.4 million has come from municipal or local funds. We do not think that the government should spend, on the average, more than this for school building over the next six years. More could be achieved with such an expenditure, however, by economizing on the cost of construction and requiring [346] more local self-help. Secondary schools built by the Ministry of Public Works, for example, have been excessively expensive owing to their monumental character, the use of costly building materials such as carved stone and other features of a luxury nature. The past cost of £S 150-200 per

square meter could probably be reduced to £S 80 with simpler construction and the use of less costly local materials. More could also be achieved with central government funds allocated to school building if their availability were conditioned on a larger contribution by municipalities. The latter should be expected to provide the land and half the cost of construction either in cash or labor. 658 871

In the program priority should be given to (1) the construction and expansion of vocational schools, (2) the building of experimental multipurpose schools which can provide facilities not only for regular education, but also for adult and vocational training and for community activities, and (3) the needs of municipalities which demonstrate their desire for educational facilities by a willingness to contribute substantially to their construction. The construction of additional regular schools might well be preceded by a survey of the distribution of existing schools in relation to needs. Some parts of the country are now much better provided with schools than others.

Expenditures on Education[22]

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The program outlined above would entail an increase in government expenditures on education from an estimated annual level of about £S 36.5 million in 1953 and 1954 to an average of a little over £S 45 million in the period 1955-60. The breakdown of the anticipated outlays over the six-year period would be as follows (in millions of Syrian pounds):

	Total	Average annual
General education[a]	220.50	36.75
Vocational education[b]	3.25	0.54
Fundamental (adult) education	0.50	0.08
Higher education	37.53	6.25
School construction and equipment[c]	10.00	1.67
Total	271.78	45.29

[a] Including primary and secondary education.

[b] Additional expenditures only. Continuing expenditures at past levels are included under "General education."

[c] Excluding local contributions.

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[22] See Annex I, p. 461.

II PUBLIC HEALTH

657 744 The progress in public health has been much less spectacular and less steady than that in education. Expenditures on public health have increased sharply only in recent years. In 1954 the budget of the Ministry of Public Health amounted to £S 8.764 million or 4.2% of the regular budget, as compared with actual expenditures of £S 3.431 million or 3.4% of the total in 1945. Health facilities have been gradually expanding. The number of hospitals has risen from 35 with 1,785 beds at the end of 1945 to 61 with [749] 4,094 beds at the end of 1954. Over the last seven years the government has spent, on an average, £S 1.3 million on public health facilities, so that [759] government hospitals now have a total of 3,000 beds. The number of doctors in Syria has risen from 616 in 1945 to about 880 at present.

Yet it is generally recognized that the state of public health is far from satisfactory. This conclusion rests upon testimony and observation rather than health statistics. The statistics, indeed, are so inadequate as to provide little indication of health conditions. The number of deaths registered, for example, imply a death rate of but seven per thousand, but the record of deaths is evidently very incomplete and the actual death rate rather [164] high. There is still a high incidence of debilitating diseases. Malaria, for example, is prevalent in many parts of Syria. Diseases such as tuberculosis and the many varieties of intestinal infections, which are generally associated with poor sanitation and hygiene, overcrowding and low standards [165] of living, are quite widespread. Infant mortality is particularly high. Thus 36% of the registered deaths in 1951-53 occurred among children less than five years old, and of these about the same percentage died of diarrhoea and enteritis.

An effective campaign to raise health standards would require resources which Syria will hardly be able to mobilize at its present stage of development. The health program will have to remain rather modest and should attempt primarily to remedy the more glaring deficiencies. These are, principally, the inadequate attention given to preventive medicine and the markedly unequal geographic distribution of existing health facilities.

744 *Preventive Medicine*

The prevention of disease is likely in the long run to be more economical than curative medicine. The mission believes that this aspect of public health should receive primary emphasis in the program over the next six years. To this end we recommend a campaign against the malarial mosquito, improvement of drinking water supplies, greater stress on health education and the construction of a number of health centers.

Enough experience has now been gained in many countries to demonstrate that the scourge of malaria can be virtually wiped out by effective spraying with DDT. Such a program is receiving attention in Syria. Two WHO and UNICEF projects dealing exclusively or partially with malaria control (one in Homs and Latakia and one in Kamichliye) were being carried on in 1954; the mission understands they are to be continued until countrywide coverage is achieved. In 1954, spraying operations carried out by the government, with and without assistance by international agencies, were designed to protect some 380,000 persons, more than half the population of the malarial areas. The cost of malarial control in Syria is relatively high, an estimated U. S. $0.35 per person; nation-wide coverage would cost something over £S 810,000 annually. The mission has made provision in its recommended program for expenditure of £S 2.75 million for malarial control, which should be sufficient for three sprayings, of full coverage, during the period of the program.

Polluted drinking water is apparently an important cause of disease. Many communities are without pure water supplies. It is well recognized in Syria that this is one of the central problems which must be tackled. A program for community water supplies will be discussed in the next chapter.

The relationship of personal hygiene and sanitation to disease is a subject which must obviously be constantly stressed not only in schools and in the army, but also among adults generally. Prevention of disease is at least in part a matter of overcoming ignorance. The mission suggests that an effective health education be initiated to emphasize the maintenance of positive health as well as the prevention of diseases, in connection with education programs in elementary and secondary schools and adult education in the rural community improvement programs already recommended.

In this connection, the mission considers it important to establish a number of rural health units in different localities according to the recommendation of the Second Expert Committee on Public Health Administration of the World Health Organization (WHO Tech. Rep. Ser. No. 83). This could probably best be planned in connection with any community development scheme to be initiated in the country. In this case it would be

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744 advisable to initiate a pilot demonstration unit as a part of a community center in a rural district working in close coordination with other social and economic development projects in education, agricultural extension and social welfare. Particular emphasis should be placed on preventive health work, prenatal care and child health. This unit will also serve as a training center for the rural health workers to obtain their practical knowledge and experience in rural health work. One such pilot unit is planned by the government and WHO for 1956, utilizing TA funds.

If the demonstration proves to be successful, the present village dispensaries should gradually be grouped together and expanded to become rural health units. The existing staff in the dispensaries should be sent to the pilot unit to go through a course of training to prepare them for working in the new units.

As a start the mission recommends the construction and operation of one such experimental health unit. About £S 350,000 should suffice for construction of the necessary buildings and equipment, which need not be elaborate.

Hospital Facilities[34]

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There is unquestionably a need for many more hospitals. The principal aim in the immediate future, however, should be to build hospitals in areas which now have virtually none. For the country as a whole, there are now, in terms of the population at the beginning of 1952, 1.23 hospital beds per thousand inhabitants. The number of beds per thousand varies widely, however, from a high of 2.88 in the city and province of Damascus to 0.9 and 0.92 in the provinces of Aleppo and Homs and a low of 0.25 and 0.44 in the Jezireh and the Euphrates. Out of 44 *qadas* or counties in the country, 28 do not have any hospitals at all. A large part of the rural population is in fact denied hospital service.

An adequate program for equalizing hospital facilities would involve the provision of 3,400 beds. Over the next six years only a start can be made, by providing an additional 1,000 beds at a total cost of £S 7 million. Of this total, we suggest that 250 be allocated to the Jezireh; 300 to the Euphrates; 400 to the province of Aleppo, with perhaps 100 in the town of Jisr ech Choghour, which is likely to grow rapidly with the development of the Ghab; and 50 to Palmyra.

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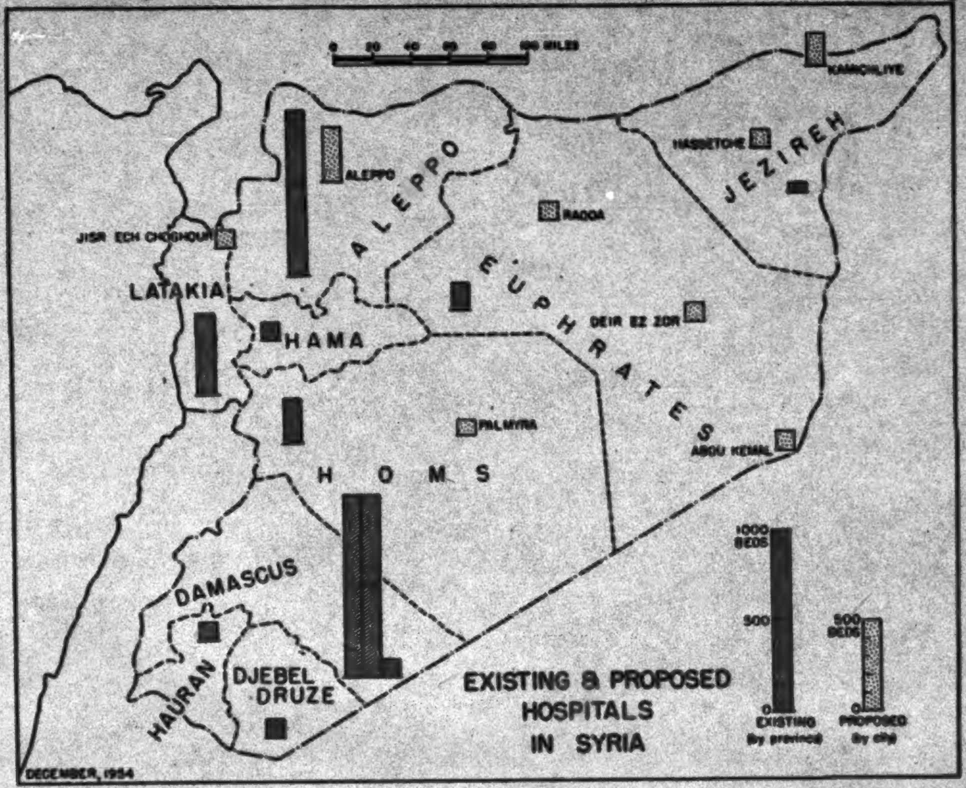
[34] See Annex I, p. 463.

MAP 10


0 20 40 60 80 100 MILES
LATAKIA
JISR ECH CHOGHOUR
ALEPPO
ALEPPO
HAMA
HOMS
PALMYRA
EUPHRATES
RACCA
DEIR EZ ZOR
ABOU KEMAL
JEZIREH
HASSETCHE
KAMICHLIYE
DAMASCUS
HAURAN
DJEBEL DRUZE
1000 BEDS
500
0
EXISTING (by province)
500 BEDS
0
PROPOSED (by city)

EXISTING & PROPOSED HOSPITALS IN SYRIA

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14:International Bank S-5(1954)1955 MD1 Syria MD1

743 In addition it would be desirable to build some new village dispensaries, which now number 96, at a cost of about £S 350,000, and to provide a similar sum for the construction of quarantine stations and minor health facilities.

To provide an adequate staff for the recommended additional medical and health facilities, the government must plan a training program. The faculty of medicine in Damascus may have to increase the enrollment of students to provide enough doctors for the new hospitals and health units. Many nurses would be needed for the hospitals, health units and dispensaries; nursing training facilities should therefore be increased. Midwives, laboratory technicians, sanitary inspectors and other medical health auxiliary personnel would also be needed to staff the new health services. The fellowships provided by WHO and the nursing education, maternal and child health and tuberculosis demonstration and training projects assisted by WHO should therefore be coordinated and if necessary expanded to meet the need for technical personnel.

In addition to the cost of the staff training program, some funds will no doubt be needed for reconstruction and expansion of hospitals; we have included £S 1 million in the recommended program for these purposes.

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657 A revision in the methods of planning and building new health facilities appears necessary. In the past, new hospitals have frequently been built without any consultation with the Ministry of Public Health. Decisions to build have generally been made in response to local requests relayed through the Ministry of Interior, approved by the Ministry of Finance and carried out by the Ministry of Public Works. In the future the Ministry of Public Health should be enabled to plan for the construction of new facilities in accordance with a careful appraisal of the most urgent requirements. The Ministry of Public Works might well continue to do the actual construction, but in accordance with plans approved by the Ministry of Public Health and on a basis which would enable the latter Ministry to make timely preparations for the equipment and staffing of new hospitals.

Proposed Outlays

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657 In proposing the construction program outlined above, the mission has kept in mind the need for providing additional funds for operation and administration. After taking this into account, it is expected that expendi-

tures on public health, including new construction, would rise from a 744
total of £S 10.052 million budgeted for 1954 to an average of £S 12.358 657
million in the six-year period 1955-60. The expenditures envisaged for the entire period 1955-60 would be distributed as follows (in thousands of Syrian pounds):

	Total	Annual average
Anti-malarial campaign and dispensaries	3,100	517
Establishment of new hospitals and health units	8,350	1,392
Quarantine stations	300	50
Administration and operation of existing and new facilities including training of technical personnel	62,400	10,400
Total	74,150	12,358

III HOUSING

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The postwar period has witnessed a considerable housing boom. In recent years construction has been on a scale double that of prewar years. The wartime backlog in housing, the increasing prosperity in the postwar period and the tendency toward a break-up of the larger family units have all contributed to this boom. Aside from a few houses built for civil servants, all of the construction has been private, and it has taken place without the help of a mortgage financing institution. In terms of value, probably over 80% of the new housing has been of the Western or European type, which is too costly for the vast majority of the people.

While the housing of the rural population and the lower classes in the cities is undoubtedly very bad, significant general improvement is likely to come about only as incomes and standards of living rise. It would be impractical for the government to direct substantial resources into housing for the masses which could not be supported by the present productivity of the economy. While the mission firmly believes that the state should take a greater interest in the improvement of housing, for the immediate future the government's role will have to be confined to (1) developing, through experimentation, methods of cheap and durable construction, (2) planning and assisting housing in new rural settlements, (3) constructing housing in urban centers which are growing rapidly owing to particular development projects, and (4) assisting in urban slum clearance.

To appraise the magnitude of the housing problem and provide a factual basis for a housing program, the mission suggests that a census of houses and buildings be carried out as soon as possible. Such a census could be conducted in cooperation with municipal authorities and would not entail much time or money.

One of the central problems is the enormous gap between the primitive mud and stone huts of the rural areas and the suburban slums on the one hand and the modern housing in the major cities on the other. Urban building codes modeled on Western European standards generally insist on building specifications which make housing much too expensive for the majority of the people. The result is that the poorer classes either are confined to the old quarters of the cities where housing is bad and overcrowded or have to move to the outskirts of the cities where building is unregulated. Rural slums without community services quickly develop and rent gouging and other forms of exploitation prevail. In the rural areas, too, there is an urgent need of developing improved houses which would not be excessively costly.

To meet this problem the mission recommends the establishment of an experimental building station near Damascus. The function of such a station would be to develop inexpensive but durable methods of construction for both rural and urban areas. It would use as a point of departure cheap local materials and traditional building techniques and seek to improve them in the light of modern technology and the experience gained in other countries. The type of housing erected by UNRWA in the refugee settlement at Ramadan, 40 kilometers northeast of Damascus, is indicative of the possibilities. These houses represent an interesting blend of traditional and modern materials used in accordance with modern techniques. While by no means a perfect solution they point the direction along which the experimental work we have in mind should proceed.

Elsewhere the mission has outlined the assistance which the government might provide for the erection of housing in the new rural settlements which would be undertaken. We have suggested, in addition, that the Agricultural Bank make loans for farm houses; and the measures proposed to enhance the security of tenure and independence of tenants should also help to improve rural housing indirectly.

Here we propose to deal only with the government's role in urban housing. We urge that the government should in the first instance finance the construction of housing in cities which are undergoing rapid development and are experiencing or will shortly experience great overcrowding. A case in point is Latakia. The development program for the port makes no provision at present for the accommodation of the rapidly growing population, so that slum conditions are steadily aggravating. The mission accordingly recommends that the government earmark £S 3 million to finance housing in this city. A similar sum should be set aside for housing in other rapidly developing urban centers such as Jisr ech Choghour at the northern end of the Ghab and the cities in the provinces of Jezireh and Euphrates.

No attempt has yet been made to deal with the problem of slums in such major cities as Damascus and Aleppo. These two cities and Latakia have been working out some sort of housing plans involving the expropriation of land, the construction of houses and their subsequent sale. Damascus has made the greatest progress with its program and has reached the stage of letting contracts. In all these cases, however, the housing to be constructed will cost from £S 8,000 to £S 12,000 per unit, a price which obviously only the more well-to-do can afford. It seems unwise to devote the limited resources available to such a purpose. We would suggest that these programs in the future be re-oriented as far as possible in the direction of resettling people now crowded together in the old slums of the cities. The program could take the form of making land available on reasonable terms and permitting people to build their own houses in accordance with approved specifications. Assistance could be given in the form of building materials and certain elements of the construction, with the people contributing most of the labor themselves. The types of houses to be built could be developed in the building research station we have proposed. To carry out such a program the municipalities might set aside £S 5 million over the next six years for buying land, and another £S 3.5 million for assistance in building. Additional legislation which would enable municipalities to acquire land for this purpose at reasonable prices may well be necessary, particularly since experience has demonstrated, as in Aleppo, that the price of land may triple or quadruple in price in anticipation of its expropriation.

To carry out the proposed functions relating to housing, the government will require expert assistance. Syria has enough engineers, labor and contractors, but housing experts are lacking. We suggest therefore that a

362 small mission of foreign experts be recruited to set up the building research station and advise the government on carrying out the housing program.

The total cost of the program we have recommended for the years 1955-60 would amount to approximately £S 7.5 million, apart from the municipal effort and the cost of housing in the new rural settlements for which provision has been made elsewhere in this report.[38] This sum would be distributed as follows (in thousands of Syrian pounds):

	Total	Average annual
Housing census	240	40
Building research station, including administration	1,010	168
Housing construction	6,000	1,000
Technical assistance	250	42
Total	7,500	1,250

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[38] See Annex I, p. 469.

CHAPTER 8

COMMUNITY PLANNING AND COMMUNITY SERVICES

In the field of community or municipal development Syria faces a number of challenging problems. Among these are the establishment of new rural settlements; rational planning of the physical development of cities and towns; the improvement of housing; the provision of community services such as water supply, electricity, waste disposal, streets and sidewalks; the location and planning of public buildings serving the community; and the introduction of social welfare services into cities. Elsewhere in this report we have dealt with the new rural settlements and with electricity supply, municipal transport and housing. Here we shall discuss briefly some of the remaining problems.

Town Planning

One of the first steps to be taken in the direction of improving community life is to work out plans according to which towns and cities can develop in an orderly and rational fashion. Town planning is not an expensive luxury, a means of realizing monumental buildings, impressive public squares, broad avenues and large public parks. It is rather an instrument for insuring that the large sums which must inevitably be invested in any human settlements not merely serve the needs of the moment but are conceived with a view to future requirements. The haphazard growth of towns and cities sooner or later leads to communications problems, overcrowding and slums, inadequacies in public services and other conditions which are wasteful of human and material resources.

Few Syrian cities have as yet adequate plans. Damascus has the longest experience in this field, and the development of the modern city, which is in many respects admirable, testifies to the utility of planning. Particularly noteworthy in recent years has been the redevelopment of the western part of the city, including the western entrance to Damascus, the provision of adequate streets and open spaces, and the removal of tanneries from the old city to a special industrial zone on the outskirts. The Damascus

361 plan has one defect in common with those of other cities: it fails to make adequate provision for the location of housing for the less well-to-do classes within the confines of the city.

Aleppo has expanded in a much less orderly way than Damascus. Although a city plan was drawn up after the second World War, it is not based on an adequate topographic survey and reveals so many deficiencies that its total revision appears to be required. Of the smaller cities, Latakia has the best plan; it takes into account the need not only to reform the old city but to develop neighborhoods for community living. A few other towns such as Deir ez Zor, Hama and Homs have plans, but these for the most part envisage little amelioration except perhaps from the standpoint of communications.

In general most of the plans have been inspired too much by transport requirements and too little by the objective of improving the conditions of urban living. More attention must be paid to the zoning of districts for housing, industry and shops and bazaars, to the interrelationship of living quarters and centers of employment, and to the location of gardens, schools, hospitals and other public buildings in such a way as to make them most accessible to the community they are designed to serve. Within the larger cities it is important to plan community living also around neighborhood units which in certain respects can be self-contained and can help to decentralize the city.

365 *Community Facilities*[38]

Municipal investment in such facilities as streets and sidewalks, water supply, sewers, lighting and libraries has averaged a little over £S 12 million a year during the period 1949-54. In addition the central government has made available almost £S 30 million to enable Aleppo to install an entirely new water supply system, and has spent between £S 200,000 and £S 300,000 annually on the exploration of water for villages in the Hauran and the Djebel Druze.

A program for municipal investment can hardly be drawn up without a careful assessment of the needs of municipalities and their ability to meet them. In view of the limited resources available, however, the volume of investment can increase only gradually, to perhaps £S 16 million in

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[38] See Annex I, p. 470.

1960, or an annual average of around £S 14.3 million over the period 1955-60. 365

The principal task of the central government in this field will be to assist 365
towns and villages in obtaining adequate supplies of pure drinking water. 312
Now that the expensive new system for Aleppo is virtually complete, it should be possible to devote more resources to the smaller cities and villages. Some £S 5 million will still need to be spent on expansion and improvement of the distribution network in Aleppo. Aside from this amount, we recommend that the government allocate about £S 8 million over the period 1955-60 for water supplies in towns and villages. The government has recognized that the problem is most acute in the Hauran and the Djebel Druze. Much of the population in these provinces is dependent on rain catchment for its water supply, and supplies in catchment basins quickly become polluted and occasionally dry up. The problem in these regions is complicated by the dearth of underground water, which necessitates expensive geophysical surveys. Elsewhere in the country there are still many villages and towns which urgently require pure water. For example, Hassetche, although the capital of Jezireh, is dependent on water drawn directly from the Khabour river and peddled from carts in the city streets. Because the need is so great, funds for water supply will have to be used with great economy. Extensive distribution systems which are expensive to install and maintain must be avoided. In the smaller villages a centrally located well will generally suffice. For the larger villages and towns the water should be piped to a limited number of public fountains where inhabitants can draw it for their domestic needs.

Waste disposal is also an important problem, especially from the standpoint 364
of public health. Even the larger cities have not fully solved this problem. In Damascus, for instance, the sewers empty into the Barada river, whose water is used farther downstream not only for irrigation but also for drinking. The most immediate need, however, is for proper waste disposal in the villages. The construction of latrines and cesspools appears to be the only feasible solution there, and the community self-improvement program which, in accordance with our earlier proposals, would be initiated by community workers, should focus at least in part on the improvement of village sanitation by this means. To overcome any public inertia, the government might find it advisable to give squatting slabs or some comparable assistance to householders as an incentive to construct and use latrines.

Urban Social Welfare

368 It seems desirable in the near future to inaugurate some social welfare work in the urban areas as a counterpart of the proposed community work in the rural areas. Initially this will have to be on a modest and experimental scale. We suggest that over the next six years 8 to 10 centers be established to serve as focal points for voluntary community activities. About £S 350,000 might be allocated for investment in such centers, and £S 120,000 for operating expenditures. The centers would provide facilities for reading, radio listening, community meetings, adult education courses and eventually even for community baths. It would be advisable to combine the community hall as far as possible with the traditional school building; we therefore recommend that all new schools be constructed as all-purpose buildings which can serve children during the day and adults at night. The centers might well be put in the charge of selected teachers who would receive some special training in social work.

We would stress particularly that this modest program is experimental in character. Experience with the first centers will demonstrate how useful they can be, what needs they must serve and how they can best meet these needs.

Public Buildings[37]

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361 Public buildings are, of course, prominent features in most settlements of any size. They must be properly planned and fitted into town planning schemes so that they will be of maximum service to the government and the community. Elsewhere in this report we have discussed building requirements for agriculture, education, health and similiar special purposes. Any development program should also take into account the probable outlays on buildings of a general administrative character. The mission, however, had very little basis on which to project investment expenditures on government buildings of this kind. During the period 1949-53 the Ministry of Public Works spent on an average about £S 1 million on the construction of public buildings for purposes other than agriculture, education and health. The mission thought it advisable to assume that such expenditures would rise in the future and has accord-

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[37] See Annex I, p. 472.

ingly allowed for construction amounting to £S 8.5 million during the 653
years 1955-60, or a little over £S 1.4 million annually. 361

The mission has one general observation to make regarding the responsibility for planning and constructing government buildings of all types. We believe that the Ministry of Public Works should in the future, as in the past, be responsible for designing and constructing public buildings. On the other hand, the various ministries and government agencies for which the buildings are to be built should be in the position of programming their own requirements. We have already had occasion to stress this in connection with public health facilities but it applies generally. Each ministry or independent government agency which requires a more or less continuous building program should have at least one or two officers charged with the task of anticipating building requirements. Proposals for new construction and appropriate budget allocations should come from the ministries concerned. Once they are approved, it is the task of the Ministry of Public Works to design and construct the building. Final approval of the design should also rest with the initiating ministries or agencies since only they will be able to judge whether the proposed design meets their needs.

A Housing and Settlements Administration

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In this and previous chapters we have envisaged that the government 657
will play an increasingly prominent role with respect to the establishment of new rural settlements, urban housing and town planning. These are in the main new functions for the Syrian government and at present it is hardly equipped to discharge them. A new organization with a specially trained staff will be necessary. An independent agency set up for this purpose would have the task of (1) providing technical assistance to municipalities in town planning and related fields, and (2) planning and coordinating the work in housing and settlement.

The planning must be on two levels: on a broad national and regional scale, keeping in mind population trends and the interaction between economic development and the geographic distribution of population, and on a more detailed local scale, involving particular settlement projects.

Regarding the first of these planning functions, we do not suggest that the agency should be charged with drawing up the economic development program. It must keep under constant study, however, the impact which

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privately and publicly generated economic development will have on the distribution of the population and must anticipate what problems it will pose in terms of growth of municipalities and their needs, and in terms of regional transport and other requirements. It would also study comparative population pressures on the land and recommend how these might best be relieved through the development of idle or under-utilized land and the establishment of new settlements. Its findings and recommendations would permit timely revisions in the content and direction of a public development program.

With respect to the second planning function, the proposed agency would prepare in detail the settlement schemes for the Ghab, the Roudj and the dry-farming areas we have proposed. It is important that one organization have the responsibility for planning and coordinating this settlement work. Only in this way will it be possible to economize on the expert staff required and to apply the experience gained in one settlement scheme to subsequent projects. Thus the agency would plan in detail the layout of the settlement, the community facilities to be provided, the type and design of housing and methods of construction, the communications among the new settlements or between new settlements and existing communities, the principles governing the selection of settlers and the terms on which they would be settled, etc. Within the framework of such a plan, the actual carrying out of various phases of the settlement work should be left as far as possible to existing ministries and departments. Thus the Ministry of Interior in consultation with the Ministry of Agriculture would select the settlers in accordance with the recommended criteria; the Ministry of Public Works would cooperate with the settlers in the construction of housing, community facilities and roads; and the Agricultural Bank would finance the necessary housing and equipment of the settlers. Even in the planning of the settlements, the proposed agency should consult freely with the ministries concerned. It would, however, retain over-all direction in order to ensure that the work by all interested parties is properly carried out and coordinated.

In the field of housing and town planning, the new agency's functions would be similar in character. It would lay down the general directions along which the proposed building research station would work. The housing funds made available by the government would be distributed among municipalities in accordance with the recommendations and terms and conditions which it would frame. It would provide technical assistance to municipalities in drawing up and revising town planning schemes. 361

For this agency we envisage a status comparable to that of the agency 657 in charge of the rural community development program. It should be headed by a competent, well-paid director directly responsible to the prime minister and the cabinet. A part of its top staff of experts initially would have to be recruited abroad. In view of its responsibility for a vital segment of the development program, it should have a budget of around £S 600,000 a year to which the government might contribute £S 500,000 and the municipalities £S 100,000.

Proposed Expenditures

The recommendations which we have made in this chapter would entail a total government outlay of £S 24.95 million over the six-year period 1955-60, distributed as follows (in thousands of Syrian pounds):

	Total	Average annua
Water supply	13,000	2,167
Urban social welfare	450	75
Public buildings (general)	8,500	1,417
Housing and Settlements Administration	3,000	500
Total	24,950	4,159

These proposed expenditures are exclusive of those which would be undertaken by the municipalities.

CHAPTER 9

FINANCING AND EXECUTION OF THE PROGRAM

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652. 1 FINANCING

We must now examine how future government expenditures as affected by our recommendations can be financed. First we shall review the total expenditures and then we shall analyze the available financial resources.

Projected Expenditures

Table 8 recapitulates under the heading "Development" the outlays envisaged in preceding chapters. The only additions to those previously discussed are items of £S 10 million for the capital of the proposed central bank and of £S 25 million for a development commission which is mentioned later in this chapter. It should be noted that not all of these expenditures are, strictly speaking, related to development. They include, for example, provision for the compensation of stockholders in nationalized public utilities and for the payment of additional subsidies to the railways. The average annual total of "development" expenditures is undoubtedly large—about double that of previous years.

To this total must be added the non-development outlays. Non-defense expenditures have been included in Table 8 under the heading "General Administration". We have projected these at a level which on the average would be 12% higher than was budgeted in 1953 and 1954 and 36% higher than actual annual expenditures in the three-year period 1950-52. By far the greater part of this increase has been attributed to the Ministry of Finance, whose budget will have to expand significantly to cover larger expenditures on debt service, tax collection and petroleum subsidies.[38]

[38] The cost of subsidizing imports of petroleum products arising out of the provision of foreign exchange for such imports at the official rate is borne by the Ministry's budget. It should be noted that the present subsidy on petroleum products may be abandoned but in that case there may be a corresponding reduction of taxes on petroleum products and therefore an offsetting loss in government revenues.

TABLE 8 Comparison of Past and Proposed Government Expenditures 652

(Million £S)

	Past expenditures			Projected expenditure for 1955–60	
	Average 1950–52 (actual)	1953 (budget estimates)	1954 (budget estimates)	Average annual	Total[a]
Development					
Irrigation and reclamation				33.5	201.2
Other agriculture				23.2	139.1
Industry				2.0	12.0
Tourist trade	[Accurate breakdown of total			1.3	7.9
Electric power	past expenditures not available]			10.1	60.7
Transport or communications				28.9	173.3
Education				45.3	271.8
Public health				12.4	74.2
Community planning and services[b]				4.2	25.0
Housing				1.3	7.5
Miscellaneous[c]				2.3	13.5
Sub-total	76.0	88.3[e]	n.a.	164.3	986.1
General administration[d]	53.7	64.4[e]	66.4	73.2	439.3
Defense	69.0	66.0[f]	75.4	75.5	453.0
Increase in government salaries				4.2	25.0
Grand total	198.7	221.7	n.a.	317.2	1,903.4

[a] Totals do not check because of rounding.

[b] Including public administration buildings.

[c] Included in the six-year total are £S 10 million for capital of the projected central bank, £S 2.5 million for a development commission, and £S 1 million for the expansion of statistical services.

[d] Expenditures of the Presidency of the Council, Parliament, Supreme Court, and the Ministries of Justice, Foreign Affairs, Interior, Finance, and National Economy insofar as they are not included under development outlays.

[e] Actual expenditures under these two headings were apparently £S 11 million lower than the budgeted totals.

[f] Actual expenditures.

We have also envisaged a rise in the "overhead" expenditures of the Ministry of Public Works, which will be responsible for carrying out many of the projects provided for in the development program. For the remaining ministries and agencies, however, little or no increase has been anticipated. The development program can be financed only if the govern-

652 ment is determined to exercise the strictest economy in its other expenditures, which have already been raised significantly in recent years. At the same time we do recognize that the salaries of government servants will need to be raised and have accordingly provided £S 25 million up to the end of 1960 for this purpose. We shall revert to this subject later in this chapter.

Expenditures on defense have been projected at the level obtaining in the last few years. This should obviously be considered an assumption only and not a judgment or recommendation by the mission as to their actual or desirable future magnitude. However, any substantial increase in such expenditures is likely to be possible only at the expense of development.

Means of Financing

We believe that the total expenditure of around £S 1,900 million for the period 1955-60 can be financed without risking the danger of inflation. Table 9 sets forth the possible sources of financing which include (1) anticipated growth in existing revenues, (2) recommended revisions in taxes and revenues, (3) improved tax collection, (4) public utilities' income, (5) oil transit revenues, (6) domestic borrowing and (7) foreign aid and borrowing. Each of these will now be discussed in turn.

With the normal growth of the economy the yield of present taxes and revenues, other than oil transit receipts, can be expected to rise at an annual rate of 3% to 4%. From 1949 to 1953 government revenues rose by 67% or a little over 13% per year. A considerable part of this increase, however, was undoubtedly due to changes in the tax structure and tax rates. While national income probably went up about 25% during this period, the share absorbed by the central government apparently rose from about 11% in 1949 to approximately 13.5% in 1953. Since we anticipate a decline in the rate at which the economy has been expanding, we have not counted on an increase in the tax base of more than 3% to 4% per year.

It should be possible, however, to raise a modest amount of additional revenue by changes in rates and imposition of new taxes. Before discussing these increases, a decline in certain receipts should be noted. The mission fully endorses the abolition in 1954 of the export tax on cereals but we hope that the government will be able to resist pressure to eliminate the export duty on raw cotton as well. To do so would reduce revenues by

TABLE 9 Financial Resources, 1955-60

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(Million £S)

Existing revenues, with anticipated growth[a]		1,315–1,360
Additional taxes and revenues		
Change in base for application of ad valorem import duties	20.0	
Excises, import duties and fees	25.0	
Institution of global income tax	24.0	
Tax on large landholdings	10.0	
Additional revenues from state domain	11.0	
		90.0
Improved tax administration		40.0
Income from Aleppo and Damascus public utilities		60.0
Oil transit revenues		73.0
Domestic borrowing		85–120
Foreign aid and foreign borrowing		175–215
Total		1,838–1,958

[a] Annual increase of 3% and 4% respectively. The estimates exclude oil revenues and take into account the repeal of the export tax on cereals and the effect of the proposed adjustment in the livestock tax.

about £S 11 million per year, a loss which Syria can ill afford, and while the tax may well have discouraged the cultivation of cotton on unsuitable land, there is no reason to believe that it has worked undue hardship on efficient cotton producers. We recommend, however, that the existing specific duty be replaced by one levied on a sliding scale graduated according to the price of raw cotton. In addition we suggest that the present head tax on animals, which is difficult to administer, be repealed and that instead the sale of animals, wool, hides and skins be subjected to the regular 7% agricultural production tax. This would probably entail some loss of revenue which, together with the consequences of the elimination of the export levy on cereals, has already been taken into account in the projection of government receipts mentioned above.

Since the proposed tax and revenue increases recommended by the 651
mission are discussed in previous sections of this report and in the Annex 652
on public finance, they will be mentioned only briefly below:

1. *Assessment of import duties at the actual instead of the official exchange rate.* This would increase significantly the yield of existing ad valorem tariffs, many of which are very low in terms of valuations at the

651 de facto exchange rate. We have already indicated in the chapter on in-
652 dustry, however, that this measure should be accompanied by a review of the entire tariff schedule so that the incidence of all ad valorem duties would not be raised arbitrarily.

2. *Higher excises, customs duties and fees.* Quite apart from the proposal in the preceding paragraph, it should be possible to impose additional excise taxes or, alternatively, customs duties on luxuries and semi-luxuries. The rates at which certain fees are collected on business transactions, including stamp duties, judicial and property transfer fees and the like, could also be raised.

3. *Imposition of a global income tax.* Existing income taxes are schedular in character, that is, levied separately on income derived from business and professions, salaries or wages, circulating capital, and urban real property. These taxes are not sufficiently progressive in their incidence on persons drawing their income from two or more sources. We recommend, therefore, that they be complemented by a global income tax, which would be more closely related to ability to pay. Income from agriculture which is not subject to any of the schedular taxes should in our view be included in this global tax. It has often been argued that taxation of income from agriculture is administratively impracticable. We propose, however, that only the high incomes derived from agriculture be included in the tax, and we do not believe that these are by and large more difficult to estimate than those derived from other sources.

4. *Tax on large landholdings.* The essential features of this proposed tax, which is recommended primarily as a measure of land policy, have already been outlined in Chapter 3.

5. *Additional revenues from state domain.* We have suggested that the income now derived from state domain that is already leased for agricultural purposes can be increased by gradually raising the rentals to a level conforming more closely to that prevailing for private land, for instance in the Jezireh. In addition, the recapture of land under the provisions of Law No. 135 of October 29, 1952, recommended elsewhere, should ultimately make considerable additional state land available for leasing.

The total amount of additional revenue we anticipate from these proposals is only £S 90 million over the six-year period. The eventual annual yield is likely to be much more than £S 15 million, but we have allowed for the probability that the proposed increases will not be fully effective for some time.

The more efficient collection of taxes is already receiving attention 651
from the government. Syrian officials have estimated that receipts from 652
all sources might be increased by as much as 40% if all liabilities under existing taxes were enforced. To be conservative we have merely assumed that more effective collection could ultimately raise the yield of direct and indirect taxes, now amounting to about £S 160 million per year (average of 1953 and 1954), by about 10%. For the period as a whole we have estimated increased receipts on this account at only £S 40 million.

In the chapter on electric power we have pointed out that the net 652
operating income of the nationalized public utility companies of Aleppo and Damascus, which is already high, is likely to rise still further. If this income is not dissipated by lowering power rates, against which we strongly advise at this time, it should suffice to finance the entire power expansion program and also to pay compensation to the former owners of these companies.

Foreign oil companies now pay certain fees on crude oil passing through Syria by pipeline. Receipts of £S 65 million were budgeted on this account in 1954. New and higher transit rates have been periodically under negotiation, and there remains no doubt that new rates will go into effect some time during the next few years. We have conservatively estimated the increased receipts on the basis of the most recent proposals made by the Iraq Petroleum Company, although this does not, of course, imply a judgment on our part as to the merits of the offer.

Prospects of Domestic Borrowing

The possibility of domestic borrowing without serious inflationary consequences must now be examined. As a preliminary it is useful to note how much the government has borrowed in the past. Over the five-year period 1949-53 the government raised a net sum of £S 157.1 million (according to figures on the public debt) by domestic borrowing, all of it from the BSL, which, it will be recalled, has some of the functions of a central bank. In the two-year period 1952-53 funds raised by net borrowing amounted to £S 71.1 million.

This increase was offset by a sharp rise in public deposits, as indicated below (in millions of Syrian pounds):

	1949-53	1949-51	1952-53
Net new public borrowing*	130.6	85.5	45.1
Less rise in public deposits	151.6	17.2	134.4
Of which public treasury	45.5	4.0	49.5
Difference	−21.0	+68.3	−89.3

* Changes in the public debt, excluding obligations which did not give rise to cash payments or receipts.

Over the entire five-year period, the increase in public deposits exceeded the amount of funds raised through borrowing by £S 21 million. In the first three years of the period, however, borrowing was much greater than the rise in public deposits, thus permitting an excess of public spending over revenues. In the last five years of the period, on the other hand, the increase in public deposits was far greater than the total amount raised by new borrowing.

Excess spending in the initial three-year period may have created some inflationary pressures. Whether deficit financing actually had any inflationary impact is almost impossible to determine in view of the dearth of reliable economic indicators and the additional difficulties of interpretation created by the termination of the Syrian-Lebanese economic union in 1950. It seems probable, however, that the continued expansion of production and trade during this period made it relatively easy to absorb the additional money supply injected into the economy by deficit financing.

The increase in public deposits during the years 1952 and 1953 was apparently not an important factor in the expansion of bank credit to the private sector. Bank credit did almost double during this period, rising from £S 115.1 million at the end of 1951 to £S 226.8 million at the end of 1953, and in 1954 there was a further expansion. The BSL, which held 93% of the public deposits at the end of 1953, accounted, however, for only £S 16.8 million of the increase in bank credit during the two-year period. In part the BSL was prevented from expanding credit by the requirement of the Ministry of Finance that foreign exchange transferred to the Bank by the Office des Changes be put into the monetary cover, thus necessitating a shift of the Bank's holdings of public debt from the issue to the banking department. Despite the over-all expansion in bank credit, which was financed to the extent of £S 51 million by an increase in banking advances from abroad, no inflation took place in 1952 and 1953. In fact prices were falling and, after the impact of the bad harvest of 1951 was overcome, the balance of trade and payments became progressively more favorable. Foreign exchange reserves during the whole two-year period rose from £S 73.7 million to £S 97.9 million at official rates and from £S 114.3 million to £S 157 million at free rates.

In the future it would obviously be unwise to rely extensively on borrowing from the proposed central bank or, in the interim, from the issue department of the BSL. Such borrowing leads directly to the issue of additional money which, unless offset by either the curtailment of private credit or a corresponding increase in national income, would produce inflationary forces causing a price increase or an unfavorable trend in the balance of international payments. In the first instance, therefore, the government must attempt to borrow in a manner which would be clearly non-inflationary.

This means that the government must be able to issue securities and establish a market for them. In the past, the government has not issued marketable securities either in the form of Treasury bills or government bonds. Some preparations for the issue of Treasury bills are apparently going forward, but no steps have been taken looking toward the marketing of government bonds.

The marketing of government bonds meets with three obstacles: (1) reluctance on the part of the government to offer attractive terms; (2) the lack of a capital market and institutions for the mobilization of savings; and (3) lack of confidence in the government.

Direct borrowing from the central bank (in this case the BSL) is appealing to the government because it is cheap. The interest rate is only 1% and some advances are even non-interest bearing. The dangers of this course of action, however, must be stressed. They are recognized in the Organic Monetary Statute providing for the creation of a central bank, enacted by Legislative Decree No. 87 of March 28, 1953. This legislation, contrary to previous law and practice, placed a limit on government access to the central bank. Under Title II of the law the amount of public debt acceptable as monetary cover was limited to (1) a consolidated advance to the state of £S 220 million; (2) cash facilities during any one budget year and repayable in that year of up to one-tenth of the budget receipts of the preceding year; (3) Treasury bills issued to cover foreign exchange and gold losses as a result of changes in rates or parities and

652 advances made by the Exchange Office under international payments agreements; (4) Treasury notes that might eventually have to be remitted by the government to cover its subscription to the IMF and IBRD; and (5) Treasury certificates, bills and bonds issued or guaranteed by the state up to a limit of £S 60 million, provided their issuance is authorized by law. The operations contemplated under (1), (2), (3) and (4) would not apparently lead to the creation of additional money, except to the extent that advances might have to be made to the Exchange Office to finance a surplus of local payments under international payments agreements. Syria has, however, no payments agreements at present, and the problem is not likely to assume considerable magnitude in the future. Thus only under (5) could a real new money-creating debt develop, i.e., to a total of £S 60 million.

These provisions, which have already become effective, impress us as a salutary restraint on inflationary deficit financing. We urge, however, that the draft legislation already prepared for the consolidation and appropriate management of the direct and indirect state debt be enacted as promptly as possible.

Government securities must therefore be floated on terms attractive enough to ensure their sale to customers other than the central bank. Just what the terms should be can be only established by a survey of the potential market (commercial banks and individuals) conducted with expert advice. In any event it would be advisable to err on the generous side. Treasury bills would probably have to carry interest rates of at least 2½% and government bonds from 6-7% depending on the relative attractiveness of other investments and the maturity of the issue. Judging from the experience of the Port of Latakia, which sought to market shares with a guaranteed return of 5%, the latter rate is likely to be too low, at least initially. Long-term bonds are almost certainly unmarketable. At the beginning the maximum maturity would probably have to be 3-5 years. This is all the more true because commercial banks would presumably be the principal investors until the public became more accustomed to the idea of investing in government securities.

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454 In most countries, savings are in large part mobilized by such institutional means as banks, special savings banks, insurance companies, and social insurance or provident funds. These institutionalized savings are then in turn largely invested in government bonds or other bonds. In Syria, as we have already pointed out, there are no institutions other than

the regular banks which are capable of mobilizing funds in this way. 652
Thus one important element in the market for bonds is lacking. 454

Institutional savings obviously cannot be developed within a short period. For the longer run, however, it is important that steps be taken in the next few years to stimulate such savings. Among the steps that the mission would recommend are the following:

1. The government should start paying its government servants, at least those in the upper half of the civil service grades, by check, so as to familiarize them with the use of banks and thus indirectly encourage them to make deposits in banks. Such a measure, though not of great importance, could at least be quickly implemented.

2. The Council of Money and Credit should canvass with the commercial banks the possibility of stimulating the development of savings and time deposits. Among the measures that might be discussed for adoption are (1) the possibility of establishing a greater differential between interest rates on current deposits on the one hand and those on time and savings deposits on the other without necessarily increasing the over-all interest burden of the banks; (2) the possibility of attaching some lottery feature to time and savings deposits (this is done in some countries such as Japan); and (3) the inauguration of a joint government-bank campaign designed to show how deposits in banks for given periods can "grow."

3. The government should look to the gradual introduction of a postal savings system. Such a system might be inaugurated on a trial basis in one of the larger cities. It would necessitate a publicity campaign in which the cooperation of teachers, religious leaders and the Chambers of Commerce, Industry and Agriculture should be enlisted.

4. The government should take various measures to encourage savings 652
through insurance. Among these are (1) the drafting, with expert foreign 456
assistance, of a modern insurance law designed to ensure that investors in life insurance are protected to the maximum extent possible and to lay down some stipulations regarding the portion of assets representing Syrian business that must be invested in Syria; (2) conferences with representatives of insurance companies doing business in Syria and neighboring countries, designed to explore the steps which might be taken to increase the volume of Syrian individual life and group insurance business through such measures as better training of agents and subagents, publicity campaigns, etc.; (3) exploration, with the help of ILO, of the possibility of introducing some forms of social insurance, particularly accident and

652 456 old age insurance, on a modest scale in Syria; and (4) enlisting the support of Moslem religious leaders for insurance in the form of a pronouncement that the taking out of insurance is not contrary to Koranic teachings. Regarding the latter, it should be noted that such a pronouncement was obtained in Egypt quite some time ago. Egypt is one Moslem country where life insurance has slowly developed. There the face value of life insurance policies has increased from £E 30 million, with premium payments of £E 1.25 million, in 1942, to £E 67.7 million, with premium payments of £E 3 million, in 1951.

652 457 Since rapid results cannot be expected from measures to foster "institutionalized savings", the question arises whether the government can be expected to find a market for its securities under the conditions to be anticipated over the next six years. We have had occasion to point out that the considerable savings in Syria flow for the most part directly into investments of various kinds without the intermediary of a market, and that tangible investments, particularly in real estate, are generally preferred. At the same time the success of industrial companies in the postwar period and the tendency toward greater dispersion of their shares point to an increasing willingness to invest in securities. Moreover, as we have indicated elsewhere, private investment opportunities may not increase in the future at the same rate as in the past. The provision of additional agricultural credit through such a public institution as the Agricultural Bank may also displace some private funds now devoted to such financing. In theory, therefore, private funds may become available for investment in public securities. It is always possible, of course, that they may go, instead, into hoards or increased consumption. However, there has been a marked tendency in Syria to save and invest, and if savers and investors can be persuaded that government securities offer an attractive return and are safe, they might be expected gradually to venture into public investment.

A rate of return of 6% on government bonds might be attractive, at least to those who have been investing in building, where the return has been comparatively modest and where it might be expected to decline in the future. Lack of confidence in the government, in its determination to repay and in its use of public funds, is no doubt the most important obstacle. Such confidence is likely to be established only gradually. The government may already have contributed somewhat to this confidence in the last two years by stabilizing the value of the Syrian pound in relation to other currencies and by maintaining internal financial equilibrium. Special bond issues for specific projects which have impressed the business community 652 as specially worthwhile may be more successful than those intended to 454 raise funds for general government purposes.

During the period when full confidence in the government is lacking, people may be reluctant to "freeze" their funds in government securities. In the absence of a market where securities can be readily traded, such funds do tend to be frozen until the maturity of the government security. This difficulty might be overcome by providing that government bonds, even though issued for a stated number of years, will in principle be redeemed at stated prices at intervals of six months. If the bonds are originally issued on a discount basis and the redemption prices fixed in such a way that the implied interest rate increases the longer the bond is retained, a definite incentive to longer retention is provided. At the same time the investor has the assurance that he will always be repaid at short notice. Such a bond may also be appealing for bank investment in view of its liquidity. For the government it admittedly has a disadvantage in that the volume of redemption payments cannot be anticipated. In emergencies the government can, however, borrow from the central bank to meet the redemption payments. Such recourse, except for temporary purposes, is not to be recommended, but if the very possibility of prompt repayment strengthens confidence, it may in the longer run make unnecessary net borrowing from the central bank to meet redemption payments. To increase the attractiveness of investment in government bonds, the incorporation of a lottery feature may also be considered.

Any prediction as to the amount of government securities the "public" may be expected to absorb is exceedingly hazardous. It might be noted here that even if only 2% of gross private investment in 1953 (which was about £S 185 million) were to be diverted annually to investment in government securities, this would amount to a total of £S 18.5 million over five years. It may not be unreasonable to expect that over this period public purchases of government securities might range between £S 10 million and £S 20 million. Some underdeveloped countries such as India and Ceylon have been surprised by the unexpectedly favorable response of private investors to issues of government bonds.

In a number of underdeveloped countries commercial banks have been 652 persuaded to finance a substantial amount of public indebtedness. Syrian commercial banks might well become the major buyers of government bonds; this may or may not be economically advisable, depending on the

652 circumstances. It will tend to be inflationary if the banks acquire funds for such investment simply by rediscounting more commercial paper with the central bank, and it will have undesirable consequences for the private sector of the economy if the investment takes place at the expense of private credit. On the other hand, there would be no inflationary effect if foreign banks operating in Syria brought in additional funds from abroad to take care of investment in government paper as well as ordinary private credit needs. We have already noted that commercial banks do call upon their foreign branches or parent institutions for additional funds as credit needs arise. If the new central bank is established in Syria within a few years, as is envisaged, the commercial banks may prefer to obtain additional funds by rediscounting their paper with such a bank rather than by getting advances from abroad. This may not necessarily be the case if they wish to maintain their independence or if they consider investment in government securities attractive both because of the yield and the assurance that capital transfers in and out of Syria are permitted freely. To the extent that the demand for private credit falls off relative to the rise in private deposits, bank investment in government bonds also need not be harmful. With the probable diminution of private investment opportunities, deposits may rise more rapidly than bank credit. The increase in private deposits may then be a reflection of the rise in non-invested savings. Under these circumstances bank investment in government bonds may be a means indirectly of making this idle money available for public investment.

Government deficit financing—that is, borrowing from the central bank or the banking system as a whole in a manner that injects additional money into the economy—is not necessarily harmful under all circumstances. Its consequence depends on the conditions of production and trade and on the balance of international payments. If production and exports remain high and private investment and import of investment goods fall off, some deficit financing may be possible. The same will be true if production and exports continue to expand without an equally rapid rise in imports. If the private economy experiences some deflation, pointing to the existence of idle resources which could be quickly brought into production again, some offsetting inflationary financing by the government may not be out of place. At no time, however, will a rather haphazard approach to inflationary borrowing be justified. The timing and magnitude of such borrowing must be well considered. A careful watch will need to be kept on pertinent economic indicators such as the volume of production and exports, the volume of imports of consumer and investment goods, the trend in the over-all balance of international payments and the development of prices.

It would be dangerous to consider any extensive government borrowing from the banking system until proper control of money and credit can be assured through a central bank. The BSL is not in a position to exercise such effective control, in part because it is primarily a commercial bank and in part because it does not have the requisite powers. The necessary legislation for establishing a central bank has been enacted and the proposed institution has been endowed with ample powers over the supply of money and credit. Although it is to be established within a few years, as soon as the requisite staff can be trained with help from the BSL, few concrete steps have apparently been taken. If for one reason or another it proves impracticable to establish the central bank within the next two years, it would be well for Syria to consider concluding a transitional agreement with the BSL whereby the bank's issue and commercial departments are clearly divorced, under conditions which give the commercial departments of the BSL and all other commercial banks equal access to the issue department to the extent they can present paper eligible as monetary cover. This does not eliminate, however, the need for as much speed as possible in the establishment of a central bank with the full powers given it by the Organic Monetary Statute. If necessary, the Syrian government should engage the services of foreign central bank experts to assist in the establishment and management of the institution in its early years and to supplement the help in the training of staff already offered by the BSL.

After considering the possibility of new borrowing, it is necessary also to examine the volume of repayments on loans which the government has extended or guaranteed for its own agencies and enterprises or for third parties. These include the following loans by the BSL (in millions of Syrian pounds) outstanding at the end of 1953:

Public administrations and institutions		59.4
Municipalities	12.8	
Aleppo Water Project	20.0	
Agricultural Bank	15.0	
Electric power authorities	10.1	
Railways	1.5	
Cereals Office		46.8
Industrial companies		13.4

In addition the government has made considerable funds available out of its own resources for investment by the PTT[29] with the evident ex-

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[29] Posts, Telephones and Telegraphs.

652 pectation that they would be repaid out of the profits of this enterprise.

Unfortunately the mission does not have much information on the terms of repayment. Loans to the municipalities are apparently for a 10-year period, so that we could expect over the next six years repayment of the amount outstanding at the end of 1949, namely £S 9.9 million. This may well be offset, however, by new municipal borrowing. It is doubtful that repayments on the Aleppo water loan will be significant within the next five years. Of the loans to the power companies, apparently £S 3.6 million will fall due before the end of 1959. We do not expect repayments by the Agricultural Bank since we have assumed, in making provision for additional capital for this institution, that it will retain its existing funds. The Cereals Office does not have sufficient assets to repay its entire debt to the BSL, so that the government will have to assume part of it. The Office should, however, be able to repay £S 10 million to £S 16 million out of its receivables and the liquidation of its inventories, and to this extent the government can safely reborrow from the central bank.[40] The loans to the industrial companies will all have to be repaid within the next five years unless they are again renewed. As for the investment advances to the PTT, it should be noted that the PTT budget for 1954 provides for the repayment of past advances of £S 3 million out of an anticipated excess of receipts on current account. While this may be over-optimistic in view of the past record of the PTT, we should undoubtedly take into account repayments of past advances if we include in the development program all the gross investment needs of the PTT. Perhaps we can anticipate repayments of £S 10 million to £S 15 million which can be credited against gross advances for new investment.

Thus we can anticipate the following non-inflationary sources of revenue or borrowing as the result of the repayments of the loans and advances discussed above (in millions of Syrian pounds):

Power companies	3.6
Cereals Office	10.0–16.0
Industrial companies	10.0
PTT	10.0–15.0
Total	33.6–44.6 (say 35–45)

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[40] Repayments could also be made out of its bank deposits, but since the withdrawal of these deposits is not likely to produce a contraction of bank credit, the government could presumably not reborrow and spend an equivalent sum without inflationary consequences.

Recapitulating, it would appear not unreasonable to expect the following sources of public funds other than ordinary government revenues from taxes, etc., over the next six years (in millions of Syrian pounds):

New domestic borrowing	
From the public	10–20
From the banking system	40–55
Reborrowing and repayments of government advances	35–45
Total	85–120

Part of the contemplated borrowing from the banking system may be inflationary in character. Significant unfavorable effects, however, need hardly be expected in view of the magnitude of the borrowing, the probable continued favorable development of the balance of international payments and the prospective diminution of private investment.

One final question calls for discussion: to what extent the government can draw down the balances in existing public deposits to defray its expenditures either in addition to or in lieu of the borrowing contemplated above. In this connection it is well to note first how these public deposits have developed over the last two years; this is shown in Table 10.

TABLE 10 Development of Public Deposits

(Million £S)

	End '51	End '53
Public Treasury	12.5	65.6
Public Administrations	47.7	73.9
(of which Customs)		(52.0)
Public Services (industrial, commercial, agricultural and financial)	7.2	49.2
(of which Cereals Office)		(19.7)
Other		0.2
Total	67.3	188.9

NOTE: Foreign exchange deposits of the Office des Changes are not included.

The largest increase has taken place in Treasury balances, particularly when it is considered that the Customs Administration was holding a very large deposit at the end of 1953 pending the transfer of these funds to the

652 Treasury.[41] The other type of public deposits which has risen rapidly consists of various autonomous government enterprises and agencies. A breakdown of these, available only for the end of 1953, is given below (in millions of Syrian pounds):

Exchange Office	6.9
Council of Money and Credit	2.0
PTT	4.3
Power, tramway and water companies	4.5
Railways	1.2
Port of Latakia	0.9
Agricultural Bank	2.2
Cereals Office	19.7
Tobacco Monopoly	4.6
Others	2.9
Total	49.2

The drawing down of public deposits is likely to have the same effect as deficit financing, particularly since it is doubtful that a decline in public deposits would be accompanied by a contraction of bank credit to the private sector. The government should regard these Treasury balances as a resource in lieu of, rather than in addition to, borrowing from the banking system; it should approach their use with the same caution it employs in considering deficit financing. The use of the accumulated balances of autonomous public entities should also be carefully watched. Finally, it would be well to require that all public deposits be kept with the Central Bank or, in the interim, with the BSL, so that the government can, if necessary, take effective steps to ensure that they do not have an undue effect on bank credit. Recently there has been a tendency to shift public deposits to other banks where it will be less easy to control their impact on credit.

652 *Foreign Aid and Borrowing*

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457 Our expectation that additional resources of £S 175 million to £S 215 million may be available from abroad rests on the assumption that Syria

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[41] The mission was unable to obtain information on the extent to which the Treasury is holding funds for the account of others. The new monetary statute envisages the ultimate establishment of a special Caisse des Depots et Consignations under the central bank to hold such deposits held on behalf of third parties; it is certainly advisable to have a clearcut distinction between the Treasury's own funds and those held in trust for others.

will be able to borrow for certain development projects and that the Syrian 652
government will accept offers of foreign aid. 648

Certain projects are likely to merit foreign loans. General economic 457
prospects warrant the expectation that Syria can contract some foreign debt and expect to serve it. At present there is no foreign debt except for the compensation due to the former foreign owners of the nationalized public utilities and a $6 million loan from Saudi-Arabia. Both the immediate and long-term prospects of the balance of international payments appear favorable. While there may be some decline in the price of exported cereals and cottons, continued expansion in the volume of exports, although at a lower rate than in the past, will probably more than offset it. A rapid rise in imports is unlikely to occur as long as monetary stability is maintained. Moreover, foreign exchange policy can be kept sufficiently flexible to enable the government to influence the volume of international payments and receipts.

The Syrian government has so far been reluctant to accept proffers of 652
foreign aid. The United States in 1954 offered to include Syria in its 648
economic aid program, and this offer presumably remains open. We have assumed here that Syria will ultimately consider it advantageous to accept. All other Arab countries have in recent years received such aid apparently without suffering any infringement of their independence. In the last five years the United States has allocated about $111 million in economic and technical assistance to the Arab countries. For 1954-55 alone almost $64 million has been assured to Egypt, Lebanon, Jordan and Iraq. If Syria does decline similar aid, it may well face the need of curtailing the development program we have outlined.

It might be appropriate to point out also that Syria signed an agreement with UNRWA in October 1952 under which $30 million was to become available for economic development projects that would assist in the rehabilitation of the Arab refugees from Palestine, who in Syria number some 85,000. Less than $2 million of these funds have actually been committed. Because of its insistence that the refugees be repatriated, the government has been reluctant to use the UNRWA development funds. At the same time it might be mentioned that the Director of UNRWA and his Advisory Commission, on which Syria is represented, agreed in a special report to the United Nations General Assembly in November 1954 that UNRWA should pursue its long-term task of "assisting the refugees

652 648 to become self-supporting," involving particularly UNRWA participation "in the economic development of the host countries, thus making it possible for the refugees and the countries in which they live to benefit jointly by the combination of available rehabilitation funds and those from other sources."[42] The uncertainties regarding Syria's acceptance of these UNRWA funds are such, however, that we have not assumed that they will actually be used.

Municipal Financing

361 652 A brief word should be said regarding the financing of development expenditures by the municipalities. In a number of places in this report we have suggested that certain expenditures be shouldered by municipalities. We have envisaged municipal investment expenditures in housing, schools and community facilities totaling about £S 103 million for the six-year period. This implies an annual outlay of around £S 17 million, compared to a probable average of some £S 12 million in recent years (exclusive of expenditures on Aleppo water supply). We have provided for part of this sum by recommending that the central government allocate £S 8 million for community water supplies (exclusive of Aleppo). Thus the municipalities will have to find a net sum of between £S 4 million and £S 5 million per year for additional investment.

Unfortunately no comprehensive information was available in Syria on actual municipal expenditures and receipts. The budgets of all municipalities were reported to have risen from £S 24.4 million in 1949 to £S 29.6 million in 1952 and further to £S 37.6 million in 1953. Data obtained by the mission from a scattering of municipalities indicate that municipal revenues—which are derived both from local taxes and surcharges on certain national taxes—have increased rather rapidly. This lends support to the tentative belief that the municipalities can bear the additional proposed expenditures, although probably only if they are not required to reduce the outstanding amount of existing indebtedness. We strongly recommend, however, that the government undertake a survey of municipal finances with a view to determining whether the municipalities can actually meet their future requirements.

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[42] See U.N. General Assembly A/2717/Add. 1, 5 November 1954.

II ADMINISTRATION

The substantial public investment and development program we have proposed will not only strain the financial resources of the government, but also impose an onerous and challenging task upon administrative resources. In our opinion this task can be accomplished only if there is considerable improvement in the organization, methods and personnel of the government service. It is no disparagement of Syria to conclude that the existing government organization cannot undertake a greatly expanded public investment and development program without a marked increase in the efficiency of its operations. Syria became independent only at the close of the last war and has therefore had only a relatively short period in which to organize an efficient government service. The government has already made significant progress, particularly in the fields of education and public health. To analyze its current shortcomings is not to depreciate its past achievements, but has been done to help work out recommendations which may better equip it for the larger tasks of the future.

These shortcomings may be enumerated as follows: (1) failure to attract sufficient competent people to the government service; (2) deficiencies in methods of operation, exemplified by excessive centralization; (3) inadequate planning and coordination; and (4) distrust and suspicion of the government on the part of the public. Each of these requires some discussion.

Considering its size, Syria has a considerable government apparatus. Excluding the army and gendarmerie, as well as day laborers, about 20,000 government employees were paid out of the regular government budget in 1952. Of these, a little over 15,000 were in the civil service cadre. In addition, various independent or semi-autonomous public agencies employed between 3,000 and 4,000 people. The total number of employees (excluding those of the municipalities) may thus be estimated at approximately 24,000.

Government salaries are very low. Even in the top grade of the civil service—a grade held by only 27 persons—the monthly salary ranged from a minimum of only £S 708 (about $198) to a maximum of £S 819.50 ($229). Only 4.7% of all the employees in the regular civil service enjoyed a minimum monthly salary in excess of £S 378.50 (about $106). Average

647 annual salaries in the civil service were only £S 2,130 or about $600 per year. The salaries of permanent employees outside the civil service are even lower. Family allowances add somewhat to the compensation, but apparently no more than 10% on the average. At this level the government cannot expect to attract many capable people or to stimulate much zeal on the part of its employees.

High government officials often find some means of supplementing their salaries by serving on various government committees and boards for which extra compensation is given. Many government employees eke out a living by taking outside jobs. Some find it difficult to resist the temptation to use their official position as an opportunity for illicit gain. In recent years the government has recruited some promising younger men, primarily by the device of paying their study abroad in return for an undertaking to serve the government for a period twice as long as the years of subsidized study. Often, however, these people are waiting impatiently for the end of their government service to explore the opportunities for private employment. In many cases, too, they are not placed in positions for which their training and education have especially suited them.

Syria, like many other Middle Eastern countries, suffers from excessive centralization of government responsibilities. This tendency toward centralization is historically deep rooted. There is a great reluctance on the part of senior officials to delegate responsibility; and officials of the middle and lower grades have in turn been unwilling to assume responsibility whenever hesitant steps in the direction of decentralization have been taken. The fact that in Syria, government officials are held personally liable for expenditures, no matter how justifiable, which have not been properly authorized is frequently an additional deterrent to rapid, effective action. The inevitable result is that high government officials are excessively preoccupied with administrative minutiae and have little time for policy formulation and planning. The consummation of any official business generally requires a considerable number of signatures or approvals. Undoubtedly many of these cumbersome procedures were devised to prevent abuses but they certainly tend to inhibit action and their efficacy in accomplishing their original purpose may also be questioned.

Inadequate planning and coordination, as already indicated, are in part a by-product of excessive administrative centralization. In part, however, the lack of planning results also from the fact that government officials have not been schooled or accustomed to look ahead and relate what is being done today to what must be undertaken tomorrow. The instability of government in the past has undoubtedly contributed to this tendency, and the fact that the government has been unable to anticipate the financial resources available has also discouraged longer range planning. Every ministry lacks a planning staff which can study the requirements in its field of action and devise a program to meet it. The Ministries of Education and Public Health, for example, were unable to formulate their requirements for consideration by the mission as part of an over-all development program. The Ministry of Agriculture has not had a staff adequate to weld many "ideas for action" into a practical action program. For the government as a whole there is as yet no machinery for planning, coordinating and supervising an investment and development program. Coordination among government ministries and agencies is often defective. Hospitals, for example, are erected by the Ministry of Public Works without consultation with the Ministry of Public Health. The Hydraulics Department of the Ministry of Public Works, which is in charge of irrigation, has inadequate contact with the Ministry of Agriculture.

In carrying out an investment and development program designed to raise living standards and improve public welfare, the government must overcome deep-rooted distrust and suspicion of its activities on the part of the population. Centuries of government neglect, indifference and even exploitation have bred this feeling of distrust which even an independent Syrian government has not yet been able to overcome. People tend generally to regard government as a negative force which taxes, polices and demands compliance with laws and regulations the purpose of which is frequently not understood. Government officials themselves often contribute to this attitude by acting as masters rather than as servants of the people. Officials at the local level, who have most contact with the people, are often indifferent and, where they are well-intentioned and anxious to do something, they are often insufficiently conversant with the problems or inadequately trained to contribute effectively to the welfare of the public. Thus most people are incapable of realizing that the government can and does operate in their interest. Any government effort to assist them in improving their lot is apt to encounter much suspicion and frequently, at least initially, an uncooperative attitude.

Recommendations for Improvement

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In the light of the above analysis the following recommendations might be considered:

1. A commission should be established to make a thorough study of government organization, personnel practices and procedures. Among its principal functions should be to undertake a reclassification of positions with appropriate salary revisions and conditions of service, and recommend changes in procedures which would promote more expeditious transaction of government business. It should also pay special attention to staffing requirements, particularly since the government appears to be understaffed in the upper ranks of the service and considerably overstaffed in the lower ranks.[48] The personnel of the commission should certainly be partly drawn from outstanding persons in private life, and consideration might be given to enlisting the assistance of a few experienced foreign experts in public administration. Pending the outcome of the commission's work it may well be necessary to grant some interim salary increases, particularly in order to retain the services of government officials in the upper grades.

2. Since any fundamental reform and improvement of the government service will inevitably take a long time, the government will need to resort in certain instances to the establishment of special independent agencies. Such agencies should have their own salary scales and administrative regulations designed to ensure competent personnel and efficient operation. To an increasing extent the government is already utilizing this device as, for example, in setting up the Latakia Port Corporation, the Ghab Administration and the Council of Money and Credit with its Foreign Exchange Office. Even in these agencies, however, the salary limitations in key posts have tended to be too low to attract and keep enough able people.

3. At least as an interim measure, the government should consider contracting out as much work as possible. For certain major public works this is already being done. The Ministry of Public Works still has a tendency, however, to undertake too much itself. In the future, new road construction and even definite projects for road improvement might well be contracted out. If additional irrigation projects are to be undertaken, these works, too, might best be carried out by a private contractor. Even

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[48] 80% of government servants appear to be concentrated in the three lowest grades of the service.

certain programs which do not fall in the category of public works projects 647 might be expedited with the assistance of private enterprise. Thus the government might consider contracting the more technical parts of the cadastral survey, which under government operation is taking far too long to accomplish.

4. A small commission should be established to plan, coordinate and 647 supervise the execution of a development program. A draft law has already 654 been prepared to establish a Permanent Economic Council and a Commission for Economic Development. The Commission would include a chairman and two economic and financial experts, all of whom would devote their full time to its work, and the Permanent Secretaries of the Ministries of National Economy, Agriculture, Public Works and Finance. Its functions would be to prepare a development program, frame annual or biennial development budgets and supervise and coordinate the carrying out of the program. The Economic Council, which would include the Minister of Economics, a representative of the central bank, members of the Commission and representatives of the business community, would review the Commission's plans and budgets and pass them to the Council of Ministers with its observations, and would also advise the government generally on economic questions. This scheme of organizing the work impresses us as sound and we suggest that a law along these lines be enacted. It brings the business community into the task of economic and development planning; it promises the creation of a professional group to do the actual programming and day-to-day supervision and control; and it enlists the cooperation of the established ministries primarily concerned with development, instead of superseding them.

The Housing and Settlements Administration we have proposed might well be fitted into this organizational scheme. It must be remembered, however, that the proposed development budget should be drawn up in close coordination with the regular government budget, since both must be fitted into the global financial resources available. Moreover, as we have pointed out, the capital or investment projects which would presumably be included in the development budget should in themselves be closely related to recurring expenditures of a developmental character in the ordinary budget.

Great care will need to be taken to ensure adequate supervision of the execution of an approved program in all its phases. The Development Commission, for instance, should be empowered to ask for periodic (at

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least quarterly) progress reports from the agencies charged with the execution of various parts of the program. These reports should contain information on rates of disbursement, physical progress of the work, difficulties experienced, etc. The commission should be enabled to deal directly with the various agencies involved and also to make recommendations to the Council of Ministers regarding the removal of any obstacles to smooth progress which may have been encountered. It should, above all, be responsible for ensuring that coordinate action is taken whenever several agencies are concerned with the carrying out of a project or program.

5. Gaining the confidence and enlisting the cooperation of people is vital to the success of any development program. Government officials must exercise considerable tact and patience in overcoming distrust and persuading the people that the government is really intent on helping them improve their conditions of life. The officials who carry out the programs at the local level, in immediate contact with the people, must have a sympathetic but not patronizing attitude and will have to be selected for their devotion to public service as well as their technical competence. Over the years many young officials will have to be trained to work among the people on such tasks as supervising agricultural credit, organizing cooperatives, providing advice on agricultural methods, etc. In large part, however, their work must be supplemented and aided by existing officials ranging from the village *moukhtar* to the *mohafez*, from the village teacher to the provincial health officer.

The new officials introduced to help carry out certain programs must be able to count on the positive cooperation of the existing officials. The latter in turn could provide more intelligent assistance and undertake more on their own initiative if they could be given a better understanding of local problems and the means of coping with them. In part this could be accomplished by requiring these officials to make more frequent tours and placing adequate transport at their disposal for this purpose. In part it could be achieved also by organizing periodic regional meetings at which problems would be discussed and competent technicians could provide information on measures that could be undertaken to improve village and town sanitation, agriculture, housing, transport and the like. At these meetings local officials could be briefed on what the government is seeking to accomplish and their positive participation in the program could be mobilized. This might help to avoid the tendency, apparent in a number

of underdeveloped countries, of regarding a development program as 647
simply a series of big projects or as something which the center imposes 654
or confers on both the people and the officials at the local level without enlisting their active participation.

Conclusion

If financial and administrative difficulties can be overcome, successful 654
achievement of the development program we have outlined should lay the basis for another period of economic expansion. The Syrian economy is fundamentally sound. Under the primary stimulus of private enterprise it has grown at a gratifying rate. Development has now reached a stage, however, where a program of government action on a large scale is necessary to provide the opportunities for further economic progress.

With the shrinkage of available new land, the government will have to carry out reclamation and irrigation projects at an accelerated pace and concentrate much more effort on assisting farmers to raise their yields. To increase productivity and enable the small farmers to share more extensively in the advancing prosperity of the country, it is necessary to carry out certain land reforms, organize cooperatives, provide much more agricultural credit and make government services available at the village level. The remaining public domain must be set aside for the progressive settlement of landless peasants in properly organized rural communities.

Storage facilities are required to improve the quality and reduce the cost of handling grain. New roads, improved road maintenance and better port facilities are needed to lower the cost of marketing agricultural commodities, and, to a lesser extent, of industrial products.

In industry, where development in the past has gone forward on a rather wide front, a period of consolidation has set in. The government must now adopt policies calculated to make manufacturing more competitive and must assist private enterprise in becoming more efficient and continuing its expansion on a more selective basis.

In the field of education, the emphasis in the future needs to be less on a further rapid extension of general educational opportunities and more on the adaptation of educational training to modern requirements and on the improvement of facilities for the acquisition of necessary vocational skills. In public health, where progress has been much less satisfactory than in education, the primary stress should be on remedying the uneven geo-

654 graphic distribution of hospitals and on preventing disease through better sanitation, anti-malarial measures and the provision of safe water supplies. In urban development, the government faces the need of providing more guidance in municipal planning and assisting some of the rapidly growing cities to make at least a start in relieving slum congestion and anticipating acute housing shortages.

To cope with these tasks, the government must be able to rely on the support and participation of the entire Syrian population. The carrying out of a development program as a truly national effort will be instrumental not only in lifting the standards of living of the nation but also in promoting national unity and strength.

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APPENDIX: *LIST OF MISSION RECOMMENDATIONS*

1 AGRICULTURE, ANIMAL HUSBANDRY AND FORESTRY

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A. *Irrigation and reclamation*

1. Aside from the reclamation of the Ghab and completion of irrigation projects already under way, initiation of four additional projects to irrigate an area of about 44,000 hectares at a cost of £S 82 million.

2. Postponement of the construction of the Youssef Pasha dam and dependent irrigation works on the Euphrates pending necessary topographic and soil surveys and detailed technical planning of the essential works and structures.

3. Experiments to determine appropriate irrigation duties for various crops and devise improved water-saving irrigation methods in order to promote optimum use of water in irrigated areas.

4. Gradual increase in expenditures on maintenance of irrigation systems, and expansion of the technical staff of the irrigation service.

B. *Land use planning*

1. Aerial survey and mapping of six areas covering some 24,000 square kilometers as an aid to delimitation of forest lands and remaining cultivable areas and to planning of irrigation and other public works.

2. Acceleration of the soil survey program, and establishment of a soils department in the Ministry of Agriculture.

3. Reservation of state domain, including state lands which should be recaptured under Law 135 of October 1952, for ultimate distribution among landless peasants and Bedouins; meanwhile, leasing of such land at somewhat higher rentals.

C. *Settlement of land*

1. Immediate initiation of detailed planning for the settlement of the Roudj and the Ghab.

000 2. Establishment of two new dry-farming communities in the Jezireh, one to experiment with mechanical cultivation and both to combine, for the benefit of Bedouin settlers, agricultural and pastoral pursuits; consideration of similar settlements for Djebel es Smaane and Djebel Druze.

3. Enforcement in these new settlements of certain minimum standards of cultivation, and adoption of safeguards against the alienation of land to absentee owners and against excessive fragmentation.

4. Establishment of a Settlements Administration to plan the settlement program and coordinate the settlement work of various government agencies.

D. *Land reform*

1. Enactment of legislation placing a limit on future land acquisitions by individual families.

2. Imposition of a moderate graduated tax on landholdings above a minimum size; application of a new global income tax to income derived from agriculture as well as from other sources.

3. Establishment of a commission to review various forms of tenancy and make recommendations designed to give the cultivator of the land more effective protection and a greater incentive to improve his land and methods of cultivation.

E. *Improvement of agricultural production*

1. Experiments on both government farms and strategically located private farms with improved crop rotation, with special emphasis on soil-building crops and greater diversification.

2. A modest government program to finance field trials of fertilizers on private farms under proper supervision; consideration of the establishment of a plant for mixing fertilizers and making insecticides from imported ingredients.

3. An accelerated effort for the selection, breeding, propagation and distribution of high-yielding and disease-resistant seed, particularly of cereals.

4. Establishment of a small implements center to devise more effective implements for small farmers, provide for field tests and arrange for eventual manufacture.

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5. Prescription of minimum qualifications for dealers in agricultural machinery pertaining to prices, stocking of spare parts and operation of servicing facilities; inauguration of short-term courses in maintenance and operation of agricultural machinery; and establishment of an agricultural school specializing in agricultural engineering at Kamichliye.

F. *Improvement of animal husbandry*

1. Measures to reduce losses of sheep during unfavorable winter seasons through the provision of food reserves and veterinary treatment. Experimental provision of desert shelters.
2. Experimental re-seeding of some desert pasture land to determine the feasibility of a more extensive program.
3. Expansion of veterinary services by affording increased facilities for district work.
4. Inauguration of a livestock breeding program at a central livestock station and, later, several sub-stations.
5. A modest program to provide incentives for farmers to convert marginal land into pasture and to grow and conserve fodder.

G. *Agricultural institutions and extension service*

1. An increase of £S 50 million in the capital resources of the Agricultural Bank and the gradual inauguration of a system of supervised credit to ensure that loans will increase the productivity of farmers; some increase in the interest rate of the Bank, with reductions on loans to cooperatives and on certain long-term loans.
2. An active campaign to promote and assist agricultural cooperatives through a properly staffed section in the Ministry of Agriculture working with the Agricultural Bank and rural community workers.
3. Establishment of a special rural community development organization which would gradually introduce community workers into villages for the purpose of assisting villagers to improve their conditions of life, with special emphasis on agriculture; further expansion of the specialized services of the Ministry of Agriculture to enable them to render assistance to these village workers as well as carry out their regular assignments.

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H. *Marketing*

1. Establishment of grain storage facilities at Latakia, Aleppo and in the Jezireh with a view to improving the quality of grain in an increasingly competitive market, reducing losses, easing transport problems and creating additional credit facilities.

2. Marketing of grain free from government intervention except in cases of real emergency.

3. Establishment of better controls over urban milk supplies; construction at Damascus, and possibly Aleppo, of small pasteurization plants with assistance from UNICEF.

4. Improvement of public abattoirs, starting with the construction of a new abattoir in Damascus.

I. *Forestry*

1. Carrying out of a program along lines already recommended by an FAO expert, focussing particularly on better protection of forest areas and closer supervision over their exploitation.

2. Establishment of additional nurseries to supply material not only for reforestation but also for planting in farm areas.

J. *Government agricultural staff*

1. Expansion of agricultural schooling with the primary objective of training more government agricultural workers; increased stipends for agricultural study abroad; establishment of a new secondary school at Kamichliye and raising of the intermediate school at Aleppo to secondary rank; increased accommodation at existing agricultural schools; inauguration of supplementary courses at the secondary school at Kharabo for the training of agricultural credit supervisors and village workers.

2. Recruitment of a considerable number of specialists abroad to assist in carrying out the program pending the training of sufficient numbers of Syrians.

II INDUSTRY AND ELECTRIC POWER

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1. Relaxation of excessive protection from foreign competition as a spur to increased efficiency, abandonment of import embargoes and a careful review of tariff rates.

2. Establishment of a privately managed investment bank, with half of the capital resources supplied by the government, to provide technical assistance needed for improvement of industrial efficiency and help in financing additional capital investment.

3. Modification of existing legislation according tax concessions to new and expanding enterprises, by replacing exemptions from income and property taxes with provisions permitting accelerated depreciation of new plant and equipment.

4. Establishment of industrial zones on outskirts of major cities, with provision for small blocks of workshops as an incentive to the relocation also of small enterprises.

5. Efforts looking toward establishment of a common market and the attendant harmonizing of economic and financial policies among Arab countries, in order to provide greater scope for industrial enterprise.

6. Stricter enforcement of the labor code, with spot checks to curb the abuse of child labor in small shops.

7. Promotion of the tourist trade by improving accommodations for tourists, providing easier access to certain notable monuments and archaeological sites and increasing government support of the Department of Antiquities.

8. Addition of about 71,750 KVA to power generating capacity in Syria, primarily in the form of steam and hydroelectric power; expansion of the staff of the Directorate of Electricity to provide more adequate technical and administrative supervision, particularly of the utilities in small towns and villages; maintenance, in general, of existing electricity rates to provide expansion resources from the utilities' operating income.

III TRANSPORT AND COMMUNICATIONS

A. *Roads*

1. Construction of a new highway system, in preference to a railway, linking the Jezireh with Aleppo and Latakia; attendant widening of the

600 Raqqa-Aleppo road, and improvement and partial realignment of the Aleppo-Latakia highway.

2. Widening of the Aleppo-Damascus and Damascus-Dera'a roads; construction of a road linking Hama with the projected highway through the Ghab.

3. Improvement of the Damascus-Beirut trunk road; a joint Syrian-Lebanese engineering survey to devise a solution for the growing traffic problem on this road.

4. Improvement in road maintenance through better organization of work, greater concentration of effort, closer field supervision and some increase in road maintenance machinery.

5. Creation of a separate Highway Department in the Ministry of Public Works.

6. Better regulation of road traffic, particularly through enforcement of loading limits; replacement of existing quantitative limitation on common carrier trucks by higher license fees.

B. *Other transport*

1. A joint Syrian-Jordanian-Lebanese review of regulations governing the use of the Hedjaz Railway and of freight rates on this railway.

2. Conversion of Syrian Airways into an autonomous enterprise, with regular publication of its accounts.

3. Continuation of private operation of buses in Damascus.

C. *Ports*

1. Continuation of the present plan for development of Latakia but with definite provision for a port silo.

2. Abandonment of present regulations requiring the use of the port of Latakia as the port development plan approaches completion.

D. *Telecommunications*

1. Endorsement of projected investment plans subject to some reduction in the magnitude of investment in the light of a reconsideration of priorities.

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IV EDUCATION AND PUBLIC HEALTH

A. *Education*

1. Greater emphasis on the quality and practical content of general education, accompanying a further expansion of primary and secondary education.

2. More emphasis on vocational education, with the opening of additional schools at Homs and Latakia; establishment of closer liaison between the vocational school system and the business community; inauguration of vocational night classes.

3. A modest beginning with adult (fundamental) education.

4. Appointment of a special committee to make recommendations on the improvement and expansion of higher education.

B. *Public health*

1. Greater emphasis on prevention of disease, primarily through an anti-malarial campaign, expansion of health education, provision of pure water supplies and construction of an experimental health unit.

2. Addition of 1,000 beds in the form of expansion of existing and construction of new hospital facilities.

3. Training of technical personnel.

V HOUSING AND COMMUNITY SERVICES

A. *Housing*

1. Establishment of a building research station to develop cheap and durable methods of construction.

2. Initiation of a modest government program to assist (a) rapidly growing municipalities in construction of cheap housing, and (b) major cities in starting a slum clearance program.

3. Modification of building codes to permit construction of cheaper but durable housing within city limits and prevent the further growth of slums on the outskirts of cities.

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B. *Community planning and services*

1. Technical assistance by the government to municipalities in the elaboration of proper town planning schemes.

2. Allocation by the central government of £S 8 million to assist towns and villages in the development of pure water supplies.

3. Inauguration of some experimental urban social welfare or community centers.

VI FINANCE AND ADMINISTRATION

A. *Finance*

1. Selected tax increases to yield about £S 90 million in additional revenues in the period 1955-60.

2. Efforts to develop gradually a market for government securities by long-term measures to stimulate institutional savings and through the trial flotation, some time during the next five years, of medium-term bonds with attractive features for investors.

3. Exercise of great caution in deficit financing in order to avoid sharp increases in prices and an excessive drain on the country's foreign exchange resources.

4. Acceleration of plans to establish a central bank in order to ensure adequate control over money and credit.

5. A survey of municipal finances to determine to what extent municipalities can in the future meet requirements from their own resources.

B. *Administration*

1. To prepare the government to carry out its additional responsibilities for development, establishment of a commission to make a thorough study of government organization, personnel practices, salary scales and procedures; meanwhile, interim salary increases for government servants, stressing improved compensation of higher officials.

2. Enactment of draft legislation setting up a Permanent Economic Council and a Commission for Economic Development.

3. Special efforts to promote among government officials in the field

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an understanding of development problems and enlist their active participation in the government's attempts to solve them.

C. *Collection of data essential to economic planning*

1. Collection of basic data necessary for development through an agricultural census, a housing census, and a periodic road traffic census.
2. Improvement in crop reporting; insistence on reliable, periodic reporting by industry of information on output, employment and investment; initiation of work on national income, consumption patterns and savings; and elaboration of more reliable price indices.
3. Establishment of an independent central statistical office to plan and coordinate the collection of statistics and act as a repository for statistical information.

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PART II ANNEXES

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[p.210 CONTAINS NO TEXTUAL MATERIAL]

ANNEX A *INTERNATIONAL ECONOMIC POSITION*

1 FOREIGN TRADE

Statistical Limitations

439 [448] Until March 13, 1950, Syria and Lebanon were joined in a Customs Union and separate trade data for the two countries were not collected. Statistics for Syrian trade first appeared in 1950 but do not cover the full year. They are also less reliable than those for succeeding years in view of the understandable lack of experience on the part of Syrian customs officers with enforcement of tariffs and recording trade.

Customs statistics record the value of imports at official rates of exchange of the Syrian pound, which differ from the prevailing free market exchange rates at which import transactions are conducted. This in itself necessitates adjustments for every currency used. On the basis of certain broad assumptions, such adjustments have been made by the mission for balance of payments estimates, but could not be made in the foreign trade statistics because of the lack of data on which to base an adjustment of the value of specific items.

The extended land frontiers, particularly in some of the more sparsely inhabited parts of the country, facilitate smuggling. Re-exports of gold were not recorded as such prior to 1954 because gold exports were forbidden.

Finally, there is believed to be a certain amount of both under- and over-estimation of the value of goods as declared to the customs authorities, especially in trade with neighboring countries, and not all these statements can be corrected.

It follows that Syria's pre-1951 foreign trade cannot be properly assessed at all and the analysis of data for the last three years must allow for margins of error due to the many adjustments based largely on estimates.

Foreign Trade of the Customs Union

Table 1 records the total value, in Syrian-Lebanese pounds, of the trade of the Syrian-Lebanese Customs Union since 1945.

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TABLE 1 Total Trade of Syria and Lebanon, 1945-49

(Thousand £LS)

Year	Exports	Imports	Trade deficit
1945	43,842	130,624	86,782
1946	85,560	266,654	181,094
1947	83,640	362,764	279,124
1948	78,501	483,460	404,959
1949	111,104	516,188	405,084

SOURCE: Official statistics of the Customs Union.

The postwar rise in exports, recorded at the actual prevailing exchange rates, was due both to the depreciation of the currency and an increase in the volume of shipments. Imports, valued at the official exchange rate, rose sharply because of postwar re-stocking, a marked increase in prices and the general expansion of economic activity. It will be noted that in 1949 the recorded value of imports was almost quadruple that of exports, and the trade deficit was actually larger than that indicated in the Table because imports were valued at the official exchange rate which, by that time, differed at least 30% from the free market rates at which imports were financed.

The question of the proportions of the Customs Union's total foreign trade originating in or destined for each of the two countries was endlessly disputed but never resolved. For many years the joint customs receipts were shared on the basis of 56% for Syria and 44% for Lebanon. This distribution was frequently contested by both sides. As it was merely an administrative arrangement and was not based on any statistical data, it provides little guidance as to the true origin and destination of trade.

Table 2 shows the foreign trade of Syria and Lebanon in the first three calendar years following the termination of the Customs Union and after eliminating their trade with each other. It indicates that Syria accounted for 75% to 80% of their combined exports and about 50% of their total imports. Syria's share of imports may well have been smaller than during the years of the Customs Union because in the years 1951 to 1953 it was becoming more self-sufficient in manufactures and was prohibiting a considerable number of imports.

TABLE 2 Foreign Trade of Syria and of Lebanon, 1951-53

(*Thousand* £S) 439

Year	Syria	Lebanon	Total	% of Syria's share in total[c]
Imports[a]:				
1951	269,863	271,816	541,679	49.8
1952	277,616	283,207	560,823	49.5
1953	273,671	269,967	543,638	50.3
Exports[b]:				
1951	217,681	78,152[d]	295,833	73.2
1952	249,294	52,053[d]	301,347	82.7
1953	285,587	69,699[d]	355,280	80.3

[a] At official exchange rates.
[b] At free market exchange rates.
[c] After elimination of their mutual trade.
[d] Lebanon's exports adjusted by difference between rates of £S and £L (annual averages).

SOURCE: Derived from official trade statistics of Syria and Lebanon.

Composition of Syrian Foreign Trade since 1951

In Chapter 1 of the Main Report global figures of Syrian exports and imports over the period 1951-53 are given. These figures are supplemented here by more detailed information on the composition of Syria's annual foreign trade since 1951. Tables 3 and 4 give a breakdown of Syrian exports and imports in 21 groups taken from the official statistics; Tables 5 and 6 show the composition of foreign trade, export and import, by principal types of commodities, selected by the mission.

Unfortunately 1951 is not a good year for purposes of comparison; the very poor cereal crop allowed only about 31,000 tons of cereals exports, as compared with over 256,000 tons in 1952 and over 383,000 tons in 1953. In 1951 exports of several other commodities, e.g., ginned cotton and wool, consequently rank relatively high. With due allowance for this circumstance the composition of Syrian exports during the last three years has been relatively stable, with ginned cotton representing more than one-third, and cereals representing approximately one-fifth of the total value of exports. Of other agricultural exports, pulses rose somewhat, while oil seeds and vetch remained fairly stable and tobacco declined. Exports of raw wool

TABLE 3 Exports by Groups of Commodities, 1951-53

Commodity	1951			1952			1953		
	Tons	Value (thousand £S)	% of total value	Tons	Value (thousand £S)	% of total value	Tons	Value (thousand £S)	% of total value
I. Live animals	5,036	30,030	10.8	4,681	28,216	8.8	6,010	35,306	9.4
II. Grains, fruit and vegetables	115,652	28,675	10.3	372,449	89,181	27.9	560,228	117,892	31.4
III. Oils and fats	1,020	1,911	0.7	144	235	0.1	1,918	2,483	0.7
IV. Processed foods and tobacco	21,280	11,379	4.1	19,822	10,095	3.2	28,392	8,982	2.4
V. Mineral products	17,245	513	0.2	36,424	1,798	0.6	46,170	2,982	0.8
VI. Chemicals and pharmaceuticals	1,784	3,534	1.3	1,967	4,063	1.3	2,201	3,244	0.9
VII. Skins, hides, etc.	1,254	4,369	1.6	706	2,508	0.8	1,008	2,983	0.8
VIII. Rubber products	86	100	0.0	42	119	0.0	51	72	0.0
IX. Wood and cork	2,428	1,161	0.4	1,696	964	0.3	1,983	1,007	0.3
X. Paper products	268	594	0.2	341	730	0.2	470	996	0.3
XI. Textile materials and goods	35,787	190,033	68.6	46,267	177,586	55.6	63,936	191,457	50.9
XII. Footwear and fashion articles	31	318	0.1	33	327	0.1	47	339	0.1
XIII. Ceramics and glass	2,053	753	0.3	2,229	739	0.2	2,464	755	0.2
XIV. Precious metals and stones	7	545	0.2	5	258	0.1	3	4,113	1.1
XV. Common metals and manufactures	8,025	2,163	0.8	3,425	1,608	0.5	1,718	1,386	0.4
XVI. Machinery	311	756	0.3	380	773	0.2	370	815	0.2
XVII. Transportation equipment	34	38	0.0	155	182	0.1	697	693	0.2
XVIII. Scientific instruments	4	25	0.0	2	36	0.0	8	191	0.1
XIX. Arms and ammunition	—	1	0.0	—	—	—	—	—	—
XX. Miscellaneous goods	43	235	0.1	50	154	0.0	45	124	0.0
XXI. Works of art	—	1	0.0	—	1	0.0	1	5	0.0
Total	212,348	277,134	100.0-	490,818	319,573	100.0	717,720	375,825	100.0

SOURCE: Official Syrian trade statistics.

TABLE 4 Imports by Groups of Commodities, 1951–53

Commodity	1951			1952			1953		
	Tons	Value (thousand £S)	% of total value	Tons	Value (thousand £S)	% of total value	Tons	Value (thousand £S)	% of total value
I. Live animals	675	8,121	2.67	734	8,233	2.63	956	8,195	2.67
II. Grains, fruit and vegetables	129,973	30,608	10.07	168,300	43,516	13.89	112,654	28,516	9.29
III. Oils and fats	4,208	3,648	1.20	8,048	5,146	1.64	8,094	5,126	1.67
IV. Processed foods and tobacco	29,733	12,145	4.00	45,060	16,992	5.42	30,607	10,477	3.41
V. Mineral products	388,262	36,222	11.92	413,822	38,792	12.38	431,679	41,189	13.41
VI. Chemicals and pharmaceuticals	17,859	15,764	5.19	18,978	16,775	5.35	23,925	15,125	4.93
VII. Skins, hides, etc.	2,157	3,919	1.29	2,584	4,707	1.50	2,705	4,135	1.35
VIII. Rubber products	2,942	5,758	1.89	2,677	5,919	1.89	3,461	5,664	1.84
IX. Wood and cork	42,607	8,754	2.88	46,219	10,459	3.34	41,198	8,837	2.88
X. Paper products	5,392	5,411	1.78	5,837	5,578	1.78	8,879	5,539	1.80
XI. Textile materials and goods	16,960	64,433	21.20	19,958	64,340	20.53	28,098	62,662	20.41
XII. Footwear and fashion articles	217	517	0.17	220	721	0.23	39	149	0.05
XIII. Ceramics and glass	7,191	3,805	1.25	5,571	3,214	1.03	7,007	3,853	1.25
XIV. Precious metals and stones	8	12,811	4.22	6	10,186	3.25	9	20,922	6.81
XV. Common metals and manufactures	49,343	22,533	7.41	46,229	25,028	7.99	50,593	23,633	7.70
XVI. Machinery	22,716	52,511	17.28	13,079	36,025	11.50	14,929	40,156	13.08
XVII. Transportation equipment	6,171	13,144	4.32	7,252	13,430	4.29	6,695	18,664	6.08
XVIII. Scientific instruments	163	2,005	0.66	156	2,343	0.75	515	2,529	0.82
XIX. Arms and ammunition	58	214	0.07	36	245	0.08	74	206	0.07
XX. Miscellaneous goods	396	1,588	0.52	362	1,677	0.54	409	1,459	0.48
XXI. Works of art	2	20	0.01	1	8	0.00	2	14	0.00
Total	727,033	303,931	100.00	805,129	313,334	100.00	772,528	307,050	100.00

SOURCE: Official Syrian trade statistics.

TABLE 5 Composition of Syria's Export Trade, 1951–53

Commodity	1951			1952			1953		
	Tons	Value (million £S)	% of total value	Tons	Value (million £S)	% of total value	Tons	Value (million £S)	% of total value
Cereals	31,253	8.3	3.0	256,217	62.8	19.7	382,988	81.8	21.8
of which: Wheat	2,748	0.8	0.3	100,227	29.8	9.3	180,185	46.0	12.2
Barley	17,175	4.2	1.5	140,135	29.4	9.2	153,268	24.8	6.6
Other	11,330	3.3	1.2	15,855	3.6	1.1	49,535	11.0	2.9
Vegetables	15,072	1.6	0.6	14,507	2.3	0.7	15,983	1.6	0.4
Pulses	5,952	2.4	0.9	7,241	2.9	0.9	21,244	7.7	2.0
Vetch	4,487	1.3	0.5	3,034	1.0	0.3	6,517	1.5	0.4
Flour	5,494	1.9	0.7	9,347	3.6	1.1	26,207	6.9	1.8
Oilseeds	21,065	6.0	2.2	33,244	7.2	2.3	29,932	6.6	1.8
Tobacco and tombac	3,770	5.6	2.0	2,896	4.6	1.4	1,423	2.4	0.6
Soap	1,540	2.9	1.0	1,790	3.4	1.1	1,919	2.6	0.7
Hides and skins	1,207	4.0	1.4	654	2.3	0.7	983	2.6	0.7
Silk products (artific.)	1,339	13.8	5.0	2,464	15.5	4.9	2,321	17.0	4.5
Cotton (ginned)	24,088	116.5	42.0	37,786	124.4	38.9	53,946	134.7	35.8
Cotton textiles	986	9.1	3.3	1,092	9.8	3.1	950	6.0	1.6
Wool	7,511	39.4	14.2	3,492	14.7	4.6	4,501	21.5	5.7
Animals[a]	n.a.	19.0	6.9	425	20.9	6.5	404	23.0	6.1
Other	88,584	45.3	16.4	116,629	44.2	13.8	168,402	59.5	15.9
Total	212,348	277.1	100.0	490,818	319.6	100.0	717,720	375.8	100.0

[a] 1951: 385,815 head; 1952: 400,000 head; 1953: 537,000 head.

SOURCE: Breakdown by types of commodities prepared by mission on the basis of official Syrian statistics.

TABLE 6 Composition of Syria's Import Trade, 1951-53

Commodity*	1951			1952			1953		
	Tons	Value (million £S)	% of total value	Tons	Value (million £S)	% of total value	Tons	Value (million £S)	% of total value
Textiles (including clothing)	16,960	64.4	21.2	19,959	64.3	20.5	28,098	62.7	20.4
Machinery (excluding motor vehicles)	22,716	52.5	17.3	13,079	36.0	11.5	14,929	40.2	13.1
Minerals	388,212	36.2	11.9	413,822	38.8	12.4	431,679	41.2	13.4
Petroleum products	270,374	29.4	9.7	365,045	35.3	11.3	412,797	39.5	12.9
Other	117,838	6.8	2.2	48,777	3.5	1.1	18,882	1.7	0.6
Metals	49,351	35.4	11.6	45,927	33.4	10.7	50,114	42.5	13.8
Gold and precious metals	8	12.8	4.2	6	10.2	3.3	9	20.9	6.8
Other	49,343	22.6	7.4	45,921	23.2	7.4	50,105	21.6	7.0
Cereals	30,257	10.8	3.6	42,084	15.7	5.0	6,022	3.2	1.0
Fruit	76,702	10.2	3.4	83,417	12.9	4.1	66,850	12.0	3.9
Chemical and pharmaceutical products	4,192	6.6	2.2	10,164	10.8	3.4	7,343	7.3	2.4
Other	138,643	87.8	28.9	176,687	101.4	32.4	167,520	97.9	31.9
Total	727,033	303.9	100.0	805,130	313.3	100.0	772,555	307.0	100.0

* At official exchange rates.

SOURCE: Breakdown by types of commodities prepared by mission on the basis of official Syrian statistics.

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439 and live animals are considerably more important than exports of hides and skins. Syria annually imports considerable quantities of animals, mostly sheep, which are exported after being fattened and sheared. Among exports of industrial goods the largest items are artificial silk products, cotton textiles and soap; together with other unclassified industrial commodities, they represent about 15% of the total value of exports.

Among imports, textiles are still the largest item, accounting regularly for one-fifth of total imports. The steady increase of demand for petroleum products is clearly shown in Table 6. The greater imports of cereals in 1951 and 1952, following the 1951 crop failure, were rather exceptional. Imports of gold increased in 1953, when they amounted to £S 20.1 million at the official rate or almost £S 32.5 million at the free market rate. Of the 5.3 tons of gold imported in that year, 1.6 tons were for monetary purposes. Imports of machinery were particularly heavy in 1951, presumably because potential investors were encouraged by the 1950 boom year.

Table 7 is designed to show how much Syria has been actually spending in terms of foreign exchange on imports of capital goods during the last three years.

Direction of Foreign Trade

As a primarily agricultural country, Syria exports most of its products to the industrialized countries of Western Europe and to the United States, from which in turn come most of Syria's imports. Table 8 shows Syria's trade with three groups of countries: the industrialized western countries; the member countries of the Arab League, with which Syria has entered into a preferential trade agreement; and other countries with which Syria has more or less regular trade relations. The Table reveals that about two-thirds of Syrian imports, by value, are derived from Western Europe and the United States and about half of its exports are directed to this group of countries. About one-fifth of Syria's imports come from the Arab countries, to which about 40% of its exports are destined.

TABLE 7 Imports of Capital Goods, 1951-53

(All figures in thousands)

	1951		1952		1953	
	£S[a]	$[b]	£S	$	£S	$
Machinery	52,611	14,546	36,025	9,710	40,056	11,204
Agricultural	19,620	5,407	26,183	7,058	33,381	9,335
Other	32,991	9,139	9,842	2,652	6,675	1,869
Transportation equipment	13,144	3,641	13,430	3,620	18,664	5,221
Total	65,755	18,187	49,455	13,330	58,720	16,425

[a] As recorded at special rate.

[b] U.S. dollar equivalent at current market rate.

SOURCES: Etude sur la Syrie Economique 1953, Bureau des Documentations Syriennes et Arabes, Damas, Syrie; official Syrian trade statistics.

TABLE 8 Value of Syria's Foreign Trade by Groups of Countries, 1951–53

(*Million £S*)

	1951				1952				1953			
	Exp.	%	Imp.[a]	%	Exp.	%	Imp.[a]	%	Exp.	%	Imp[a]	%
Countries included in Table 9	246.2	88.8	280.6	92.2	306.0	95.8	287.7	91.8	366.1	97.4	281.9	91.8
Western countries[b]	129.7	46.8	196.5	64.6	177.3	55.5	191.5	61.1	212.7	56.6	195.2	63.6
Arab countries[c]	110.7	39.9	55.1	18.1	122.7	38.4	59.9	19.1	149.0	39.6	63.3	20.6
Other regular trade partners[d]	5.8	2.1	29.0	9.5	6.0	1.9	36.3	11.6	4.4	1.2	23.4	7.6
Countries not included in Table 9 . . .	30.9	11.2	23.3	7.8	13.6	4.2	25.6	8.2	9.7	2.6	25.1	8.2
Total trade	277.1	100.0	303.9	100.0	319.6	100.0	313.3	100.0	375.8	100.0	307.0	100.0

[a] At official exchange rate.

[b] Including France, U. K., Italy, U. S., Western Germany, Belgium, Netherlands, Switzerland, Trieste, Austria, Sweden and Czechoslovakia.

[c] Does not include Lebanon's free zone.

[d] Including Iran, Spain, Burma, India, Turkey, Cuba, China and Romania.

SOURCE: Based on official Syrian trade statistics

Table 9 gives the value of Syria's trade with individual countries for 1953. It shows that Lebanon and France, with which Syria has historically been so closely connected, are still its most important trade partners, although the United Kingdom follows very closely and the United States has become Syria's main supplier.

TABLE 9 Value of Syria's Foreign Trade by Countries, 1953

(*Thousand £S*)

	Exports	Imports*	Balance
Lebanon	90,238	33,379	56,859
France	58,513	32,684	25,829
United Kingdom	46,340	33,326	13,014
Italy	31,349	21,604	9,745
West Germany	24,204	29,251	−5,047
United States	20,837	37,675	−16,838
Belgium	18,673	9,985	8,688
Iraq	17,362	8,336	9,026
Jordan	21,702	8,292	13,410
Saudi Arabia	12,188	11,873	315
Iran	237	2,080	−1,843
Netherlands	7,070	11,967	−4,897
Switzerland	4,552	9,338	−4,786
Lebanon (free zone)	3,834	—	3,834
Spain	3,681	1,022	2,659
Egypt	3,428	825	2,603
Kuwait	1,911	100	1,811
Aden	2,075	247	1,828
Burma	—	2	−2
Trieste	1,133	12	1,121
India	—	6,702	−6,702
Turkey	431	6,542	−6,111
Austria	11	3,806	−3,795
Sweden	259	3,164	−2,905
Cuba	—	2,735	−2,735
Czechoslovakia	—	2,457	−2,457
China	—	2,190	−2,190
Romania	—	2,108	−2,108
Others	5,797	25,348	−19,551
Total	375,825	307,050	68,775

* At official exchange rates.

SOURCE: Official Syrian trade statistics.

439 Table 10 gives a more detailed picture of the respective shares in Syria's 1951-53 total trade of the country's nine principal trade partners.

TABLE 10 Direction of Trade, 1951-53

(Thousand £S)

	1951		1952		1953	
	Value	%	Value	%	Value	%
Exports:						
Lebanon	59,453	21.5	70,279	22.0	90,238	24.0
France	50,353	18.2	49,166	15.4	58,513	15.6
United Kingdom	19,522	7.0	77,161	24.1	46,340	12.3
United States	37,362	13.5	15,945	5.0	20,837	5.5
Italy	14,493	5.2	16,606	5.2	31,349	8.3
Iraq	20,249	7.3	17,176	5.4	17,362	4.6
Jordan	12,348	4.5	16,846	5.3	21,702	5.8
West Germany	2,799	1.0	9,873	3.1	24,204	6.4
Others	60,555	21.9	46,521	14.5	65,280	17.4
Total	277,134	100.0	319,573	100.0	375,825	100.0
Imports:						
United States	55,514	18.3	45,470	14.5	37,675	12.3
United Kingdom	38,945	12.8	39,244	12.5	33,326	10.9
Lebanon	34,088	11.2	35,724	11.4	33,379	10.9
France	31,727	10.4	29,573	9.4	32,684	10.6
West Germany	16,922	5.6	19,098	6.1	29,251	9.5
Italy	21,225	7.0	20,472	6.5	21,604	7.0
Belgium	9,286	3.1	13,777	4.4	9,985	3.3
Netherlands	4,907	1.6	7,519	2.4	11,967	3.9
Others	91,337	30.0	102,463	32.7	97,179	31.6
Total	303,951	100.0	313,340	100.0	307,050	100.0

SOURCE: Official Syrian trade statistics.

Table 11 shows the share of the Arab countries in Syria's foreign trade during the last three years.

TABLE 11 Share of Arab Countries in Syria's Foreign Trade, 1951–53

	Imports			Exports			Balance, + or − value
	Tons	Value (million £S)	% of total value	Tons	Value (million £S)	% of total value	
1951							
Arab countries	404,666	55.1	18.1	112,661	110.7	39.9	55.6
Egypt	12,180	3.7	1.2	14,963	7.2	2.6	3.5
Iraq	43,636	8.9	2.9	4,842	20.2	7.3	11.3
Jordan	13,579	4.4	1.4	23,750	12.3	4.5	7.9
Lebanon	306,013	34.1	11.2	64,395	59.5	21.5	25.4
Saudi Arabia	28,955	3.6	1.2	4,074	8.5	3.1	4.9
Other[a]	303	0.4	0.1	637	3.0	1.1	2.6
Other countries	322,367	248.8	81.9	99,687	166.4	60.1	−82.4
Total trade	727,033	303.9	100.0	212,348	277.1	100.0	−26.8
1952							
Arab countries	465,100	59.9	19.1	211,984	122.7	38.4	62.8
Egypt	6,720	1.4	0.4	10,049	4.5	1.4	3.1
Iraq	35,311	8.5	2.7	4,958	17.2	5.4	8.7
Jordan	24,921	6.0	1.9	27,158	16.8	5.3	10.8
Lebanon	331,824	35.7	11.4	160,939	70.3	22.0	34.6
Saudi Arabia	65,551	7.9	2.5	7,452	10.3	3.2	2.4
Other[a]	773	0.4	0.1	1,428	3.6	1.1	3.2
Other countries	340,030	253.4	80.9	278,833	196.9	61.6	−56.5
Total trade	805,130	313.3	100.0	490,817	319.6	100.0	6.2
1953							
Arab countries	480,138	63.3	20.6	353,141	149.0	39.6	85.7
Egypt	1,680	0.8	0.3	15,031	3.4	0.9	2.6
Iraq	24,531	8.3	2.7	6,747	17.3	4.6	9.0
Jordan	29,877	8.3	2.7	69,563	21.7	5.8	13.4
Lebanon	322,813	33.4	10.9	249,196	90.2	24.0	56.8
Saudi Arabia	99,148	11.9	3.9	11,508	12.2	3.2	0.3
Other[a]	2,089	0.6	0.2	1,096	4.2	1.1	3.6
Other countries	292,417	243.7	79.4	364,579	226.8	60.4	−16.9
Total trade	772,555	307.0	100.0	717,720	375.8	100.0	68.8

[a] Aden, Bahrain, Kuwait, Yemen.

439 Tables 12–16 give more detailed figures concerning the value of Syria's trade with Lebanon, Iraq, Jordan, Saudi Arabia and Egypt, indicating the main import and export items.

TABLE 12 Value of Syria's Trade with Lebanon, 1951–53

(£S)

	1951	%	1952	%	1953	%
Selected imports						
Vegetables and fruits . .	4,439,936	13.0	5,921,936	16.6	8,066,150	24.2
Olive oil	867	0.0	506,570	1.4	800,361	2.4
Tobacco leaves	502,747	1.5	667,448	1.9	375,380	1.1
Cement	3,237,542	9.5	1,035,283	2.9	274,150	0.8
Petroleum products . .	19,718,325	57.8	19,935,522	55.8	19,085,725	57.2
Skins	764,318	2.2	682,099	1.9	416,776	1.2
Charcoal	1,061,015	3.1	1,302,150	3.6	1,272,965	3.8
Cement bags	61,495	0.2	285,220	0.8	53,800	0.2
Cocoons	119,985	0.4	142,345	0.4	63,750	0.2
Jute sacks	61,495	0.2	285,220	0.8	115,530	0.3
Metal ware	130,622	0.4	137,055	0.4	30,915	0.1
Aluminum	179,730	0.5	230,410	0.6	350,390	1.0
Other items	3,604,820	10.6	4,675,455	13.1	2,473,109	7.4
Total	34,087,502	100.0	35,724,183	100.0	33,379,301	100.0
Exports						
Live animals and poultry	18,925,894	31.8	20,661,936	29.4	22,771,404	25.2
Dairy products	6,766,305	11.4	5,149,066	7.3	10,823,385	12.0
Vegetables and fruits . .	1,341,516	2.3	5,275,491	7.5	8,140,801	9.0
Wheat and other grains .	1,770,862	3.0	15,992,575	22.8	35,092,371	38.9
Oil seeds	3,731,930	6.3	6.852,258	9.8	1,709,291	1.9
Cotton	13,919,315	23.4	6,802,792	9.7	4,599,719	5.1
Wool	6,377,449	10.7	1,327,006	1.9	712,620	0.8
Other items	6,619,935	11.1	8,218,205	11.7	6,388,174	7.1
Total	59,453,206	100.0	70,279,329	100.0	90,237,765	100.0

TABLE 13 Value of Syria's Trade with Iraq, 1951–53

(£S)

	1951	%	1952	%	1953	%
Selected imports						
Live animals	3,093,650	34.7	3,656,639	42.9	4,625,624	55.5
Dates	4,911,959	55.0	3,830,099	44.9	2,595,913	31.1
Oil seeds	61,889	0.7	119,297	1.4	—	—
Molasses	188,235	2.1	215,198	2.5	130,606	1.6
Skins	10,991	0.1	242,086	2.8	184,391	2.2
Wool	146,050	1.6	97,833	1.1	81,895	1.0
Other items	516,026	5.8	365,394	4.3	717,606	8.6
Total	8,928,800	100.0	8,526,276	100.0	8,336,035	100.0
Exports						
Soap	2,931,859	14.5	3,291,746	19.2	2,582,834	14.9
Cigarettes	485,283	2.4	492,582	2.9	725,588	4.2
Rayon yarn	1,465,523	7.2	922,308	5.4	1,208,925	7.0
Rayon textiles	9,569,606	47.3	7,531,188	43.8	8,370,418	48.2
Cotton textiles	1,424,540	7.0	847,153	4.9	292,865	1.7
Woolen textiles	246,227	1.2	501,427	2.9	417,718	2.4
Men's socks	651,423	3.2	455,568	2.7	213,150	1.2
Cotton knitted wear . .	609,762	3.0	591,624	3.4	423,329	2.4
Handkerchiefs	234,404	1.2	313,255	1.8	224,592	1.3
Other items	2,630,700	13.0	2,229,481	13.0	2,902,646	16.7
Total	20,249,327	100.0	17,176,323	100.0	17,362,065	100.0

TABLE 14 Value of Syria's Trade with Jordan, 1951–53

(£S)

	1951	%	1952	%	1953	%
Selected imports						
Fruits and vegetables .	1,431,451	32.9	3,094,331	51.6	4,729,174	57.0
Olive oil	77,960	1.8	1,066,830	17.8	1,626,625	19.6
Skins, raw	335,812	7.7	723,207	12.1	847,919	10.2
Wool	2,190,323	50.3	428,364	7.1	415,594	5.0
Other items	318,989	7.3	685,857	11.4	672,420	8.1
Total	4,354,035	100.0	5,998,589	100.0	8,291,732	100.0

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TABLE 14 (CONT.) Value of Syria's Trade with Jordan, 1951–53

(£S)

	1951	%	1952	%	1953	%
Exports						
Wheat and flour	—	—	—	—	6,319,349	29.1
Fruits and vegetables	321,650	2.6	1,094,633	6.5	1,150,000	5.3
Cement	—	—	938,832	5.6	2,007,405	9.2
Gas oil	150,875	1.2	501,777	3.0	588,151	2.7
Rayon textiles	1,158,553	9.3	3,289,324	19.5	3,367,427	15.5
Cotton threads	420,467	3.4	521,611	3.1	353,952	1.6
Cotton textiles	1,413,066	11.4	4,288,179	25.4	2,323,819	10.7
Ropes	122,299	1.0	312,377	1.8	306,170	1.4
Handkerchiefs	331,520	2.7	925,841	5.5	645,647	3.0
Wearing apparel	614,101	5.0	1,873,412	11.1	699,757	3.2
Other items	7,863,387	63.4	3,129,825	18.5	3,946,537	18.2
Total	12,395,918	100.0	16,875,811	100.0	21,702,214	100.0

TABLE 15 Value of Syria's Trade with Saudi Arabia, 1951–53

(£S)

	1951	%	1952	%	1953	%
Selected imports						
Petroleum products	3,216,030	90.5	7,432,589	93.9	11,084,864	93,4
Skins	196,785	5.5	458,670	5.8	422,880	3.6
Other items	142,529	4.0	20,785	0.3	365,411	3.1
Total	3,555,344	100.0	7,912,044	100.0	11,873,155	100.0
Exports						
Wheat and wheat flour	—	—	574,525	5.6	1,157,798	9.5
Furniture	113,208	1.3	211,995	2.1	365,587	3.0
Rayon textiles	1,156,847	13.6	1,052,241	10.2	1,247,732	10.2
Cotton textiles	1,410,190	16.6	958,917	9.3	364,231	3.0
Woolen textiles	173,296	2.0	339,719	3.3	413,418	3.4
Rayon wearing apparel	144,934	1.7	192,518	1.9	372,130	3.1
Cotton wearing apparel	429,748	5.1	998,444	9.7	811,779	6.7
Handkerchiefs	1,134,642	13.4	1,662,750	16.1	1,732,187	14.2
Brass articles	251,253	3.0	304,755	3.0	374,102	3.1
Other items	3,677,032	43.3	4,037,090	39.1	5,348,570	43.9
Total	8,491,200	100 0	10,332,954	100.0	12,187,534	100.0

TABLE 16 Value of Syria's Trade with Egypt, 1951–53

(£S)

	1951	%	1952	%	1953	%
Selected imports						
Rice	2,809,080	75.9	294,006	21.4	—	—
Potatoes	15,813	0.4	132,502	9.7	—	—
Asphalt	330,424	8.9	407,496	29.7	130,950	15.9
Films	152,010	4.1	89,450	6.5	182,600	22.2
Shoes	—	—	130,810	9.6	—	—
Other items	394,213	10.6	316,701	23.1	511,629	62.1
Total	3,701,540	100.0	1,370,965	100.0	825,179	100.0
Exports						
Cattle	736,612	10.2	97,710	2.2	—	—
Tomatoes	—	—	201,000	4.5	—	—
Onions	311,077	4.3	406,522	9.0	525,837	15.3
Nuts	316,494	4.4	205,550	4.6	79,436	2.3
Dried apricots	202,176	2.8	136,252	3.0	—	—
Licorice	240,536	3.3	252,956	5.6	373,548	10.9
Apricot paste	1,987,086	27.6	2,175,607	48.2	880,666	25.7
Tambacs	—	—	161,600	3.6	234,599	6.9
Other items	3,409,079	47.3	872,952	19.4	1,333,909	38.9
Total	7,203,060	100.0	4,510,149	100.0	3,427,995	100.0

Commodity Composition of Foreign Trade

During the last three years, an average of about 80% of Syria's exports to the United States consisted of raw wool and about 10% of tobacco. Among imports from the United States, the largest items are machinery of all types, vehicles, petroleum products, tires and tubes. Syria has an adverse trade balance with the United States.

Syria exports cotton, cereals and wool to the United Kingdom. In 1952 the value of these exports considerably exceeded the value of imports from the United Kingdom, which included a large variety of industrial products and raw materials, among which woolen piece-goods, cotton textiles, rayon and cotton yarn, and machinery were most significant.

The composition of trade with France, Italy, Western Germany and Belgium does not vary greatly from that of the trade with the United King-

431 dom. France is the only country in this group with which Syria has regular surpluses.

Syria's trade balance with Lebanon has always been favorable. Syria's chief exports are cereals, live animals and dairy products, vegetables and fruits, wool and cotton; imports consist largely of products of the Tripoli oil refinery, citrus fruits and bananas.

Syrian exports to Iraq are mainly textiles and soap; sheep, wool and dates are imported. The trade balance is strongly in favor of Syria.

Exports to Jordan include, apart from wheat, textiles and other manufactured goods; imports consist largely of vegetables, fruits, wool and hides.

The trade balance with Saudi Arabia is also favorable; exports are similar to those for Jordan, but imports include only two larger items, petroleum and cattle hides.

Trade with Egypt is more balanced and includes, among exports, apricot paste, dried fruits and onions; rice, asphalt, shoes and films are the main imports.

In contrast to trade with its neighboring Arab countries, Syria has a very unfavorable trade balance with Turkey, from which it imports large quantities of live animals, as well as hides, tobacco leaves and timber. Syria's 1951-52 wheat deficit was covered by imports from Turkey.

Syria's trade with countries of the Soviet bloc is comparatively insignificant. In 1953 imports from Czechoslovakia (which, because of the nature of its trade, has been listed with Western industrial countries), China and Romania amounted to about £S 6.7 million at official rates and about £S 9.9 million at free market rates. Few exports went to these countries.

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Trade Routes

481 Table 17 shows the routes along which Syrian foreign trade moves. It indicates that over 50% of export tonnage goes overseas and that 40-50% of imports arrives through Latakia or through Lebanese ports.

In spite of the rapid increase in the absolute tonnage handled by the port of Latakia, which was favored by government regulations limiting the use of other ports, Lebanese ports were able to hold their own in proportion to total Syrian import tonnage. This is explained by the fact that Beirut is the logical port for imports destined for the important Damascus area, while at the same time exports from northern Syria, which have been increasing considerably, have gone mainly through Latakia.

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The large tonnages shown in overland imports from Lebanon are chiefly due to petroleum products from the Tripoli oil refinery.

TABLE 17 Syria's Trade Routes, 1951–53

(*Thousand metric tons*)

	1951	%	1952	%	1953	%
Overseas through						
Latakia						
export	90	43	265	54	353	49
import	163	23	167	21	176	23
Beirut and Tripoli						
export	24	11	30	6	38	5
import	170	23	210	26	205	26
Overland to and from						
Lebanon						
export	64	30	161	33	249	35
import	306	42	332	41	323	42
Jordan						
export	25	12	29	6	69	10
import	14	2	25	3	30	4
Iraq						
export	5	2	5	1	7	1
import	46	6	37	5	25	3
Turkey						
export	4	2	1	—	2	—
import	28	4	34	4	13	2
Total						
exports	212	100	491	100	718	100
imports	727	100	805	100	773	100

SOURCE: Calculated by Syrian government officials.

II TRANSIT TRADE

During various periods in its long history, Syria has played a prominent part both as a transit country and as a country of middlemen in East-West trade. Within the present pattern of world trade and trade routes Syria again has a role to play as a country of transit and perhaps entrepot trade. It has a natural advantage in its location across the shortest route between

439 the Eastern Mediterranean seaboard and on the one hand, Iraq, on the
457 other, Jordan, given the boycott of Israel.

In neither of these trade routes has Syria a monopoly. Iraq, which at present is moving about 100,000 tons of goods through northern Syria by way of the Northern Railway and unspecified quantities of goods through the desert road and Damascus, has the choice of directing these commodities to Turkish, Syrian or Lebanese port terminals. If transport to the Mediterranean ports should prove too expensive or cumbersome, Basra (Iraq) will be used even for the northern provinces of Iraq. Jordan can shift more of its trade to Aqaba and there are indications that this may happen.

In these circumstances, it is clearly in the interests of Syria to make transit through Syria attractive and profitable; it would be ill advised to sacrifice the long-term interest in transit trade to doubtful immediate gains. From that standpoint, it seems rather short-sighted to require that most goods to and from Jordan be moved by rail, irrespective of the wishes and interests of the shippers, and that goods moved from Beirut to Iraq across the desert must first be reloaded into Syrian trucks.[1] It is also inconsistent with the efforts to develop free trade zones in Syria and to encourage the use of Latakia for transit.

III FOREIGN TRADE POLICIES

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651 *Licensing*

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Exports. The government may impose restrictions on the exports of specific goods, including a license requirement. As of the beginning of 1954 exports of some 30 items in the tariff schedule, including various types of metals, glycerine, sulphur, fertilizers, jute cloth and sacks, and lambs, were prohibited, and the country's most important exports, (wheat, barley, flour, cotton and cottonseed, wool, sheep and certain types of cattle) were subject to license. Trade with Israel is prohibited.

These export restrictions were instituted for various reasons—to safeguard domestic supplies and to control the re-export of imported items, particularly those of strategic importance. Other regulations are designed

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[1] The total volume of Syria's transit trade is presently estimated at 300,000–400,000 tons annually.

to safeguard quality. Among efforts aiming at improving and standardizing 439
the quality of exported cereals the following may be mentioned: in May 651
1954 the Ministry of National Economy submitted for study to the Cham- 656
bers of Commerce, Industry and Agriculture a proposed order which would
require cereal exports to be accompanied by certificates as to their weight,
degree of impurity and humidity. To the best of the mission's knowledge,
these certificates are to be issued by reputable firms, specializing in this kind
of job and cooperating with similar firms in the importing countries. This
seems to be an excellent project and we recommend that it be carried out.

Several of the chief export products, such as cotton, wheat, barley, lentils, vetch, wool and hides, can be exported only through Latakia, with exceptions provided for the southern and central provinces.

Imports. Unlike exports, all imports must in principle be licensed. The only exceptions are personal effects of travellers, gifts and commercial samples up to a certain value, gold, certain commercial imports not exceeding £S 200 in value carried by travellers, and some articles imported directly across the frontier into the Jezireh and Euphrates provinces. It should be pointed out, however, that import licenses are freely issued, except with respect to items on the proscribed list.

Certain products, such as sugar, cement, timber, iron and asphalt, can be imported only through the port of Latakia, although the regulations in this respect are rather flexible and in general do not direct through Latakia a significant amount of trade that would not otherwise have gone through this port.

Trade and Payments Agreements

Bilateral. Since its independence, Syria has concluded several trade 439
agreements, about half of which are with the principal countries of the Arab League (Saudi Arabia, Egypt, Iraq, Jordan and Lebanon). Agreements were also concluded with Greece, India, Japan, Yugoslavia and Czechoslovakia and a payments agreement has been made with France. Some of the trade agreements simply formalize existing trade relations. The most-favored-nation clause is included in nearly all agreements. In the Japanese agreement, however, it was instead provided that both partners might, when necessary, take measures to protect the production of their local industries.

Provisions relating to the volume of exchange are incorporated into the agreements with Japan and Czechoslovakia. Japan undertook to buy from Syria not less than 5,000 tons of cotton per year, whereas Czechoslovakia agreed to balance at least up to 75% of the value of its exports to Syria by imports of Syrian goods.

Relaxation of restrictions in the way of duties and licensing obligations is particularly to be found in the agreements with Arab countries.

Relations with Lebanon deserve special attention. While the Customs Union was in effect, Syria covered Lebanon's wheat deficit and exported mainly agriculture products for which Lebanon paid with fruits, vegetables, industrial goods, and merchant, banking and tourist services. After dissolution of the Customs Union Syria did its best to reduce, if not to eliminate, the services of Lebanese middlemen; it also restricted travel of Syrians to Lebanon, in varying degree until March 1954. No bilateral trade agreements existed until February 1952 when a provisional agreement was concluded, since then several times renewed and slightly amended. Under this agreement agricultural exports from one country to the other are free of customs duties. Industrial exports are divided into three groups: (a) products regarded by both parties as being of local origin,[2] which are customs free; (b) goods admitted at 50% of the normal tariff;[3] and (c) products mainly based on imported raw materials to which normal tariff rates are applied. Simultaneously with the 1952 agreement other issues outstanding between the two countries were settled, such as compensation by Syria for the £S 44 million withdrawn from circulation in Lebanon for which the Lebanese Government had issued Lebanese currency, the sharing of the deficit of the DHP railway on an equal basis, etc.

While these agreements disposed of some of the current problems many Syrians and Lebanese seem to wonder whether more general principles should not govern economic relations between the two countries. However, economic interests of the predominantly commercial business community in Lebanon, which is highly "allergic" to any government interference and depends on free trade and free market operations as well as on income from foreign visitors, appear to be in some conflict with the interests of Syrian producers, who sought and received government financial aid in the past and continue to rely on trade barriers.

[2] Including, among others, brick, concrete pipes, silk yarn, most of the processed fruit and vegetable products, some glass and a variety of handicraft goods.

[3] Including, e.g., hides and skins, food pastes, chocolates and sweets, some alcoholic beverages, furniture, certain types of hosiery and of silk tissues, etc., altogether over 50 items.

Differences between the Lebanese and Syrian tariffs on goods not produced in either country are comparatively small but for goods produced locally Syrian protection tends to be higher. For example, on textile cloth there are specific or ad valorem duties (whichever is higher) which work out to at least 50% in Syria and are lower in Lebanon. The Syrian tariff on sugar is higher than Lebanon's and there are embargoes on exports of a considerable number of local products.

In certain industries, Lebanon has the advantage of an early start, reflected in better management, design and in accumulated financial reserves. Syrians therefore do not believe it to be in their interest to open the door more widely to trade in industrial goods with Lebanon, unless the competition from Lebanese production can be compensated for by wider markets elsewhere. It is likely that the inter-Arab economic agreements (see below) will actually open such prospects.

Until 1950, trade relations between Syria and Jordan were governed by a 1923 agreement which provided for the exemption from customs duties of agricultural and industrial materials of local origin, except for tobacco and alcoholic beverages. The Palestine war which resulted in the expansion of the Hashemite Kingdom of Jordan made it necessary to revise that agreement and a new treaty was negotiated in 1953. This treaty also exempts agricultural exports from tariffs, but, unlike the agreement with Lebanon, does not extend the exemption to such important items as wheat, barley, pulses and fish. Certain products of local industries are duty free,[4] others pay two-thirds of the normal tariff and still others pay full customs duties. The agreement includes rather complicated transport provisions. In principle, goods exported from one to the other country or in transit are to be railed but there is a rather long list of goods which may also be transported by road. Jordanian wheat passing through Syria must use the railway and the same is true of two-thirds of Jordanian phosphates, provided that the railway is capable of handling these quantities.

An agreement similar to the one between Syria and Lebanon was negotiated with Iraq in 1950. It provides for reciprocal customs concessions, exempting some goods from tariff duties and reducing rates on others. Each country was to provide facilities for the other's trade and industrial activities, and Syria was to be granted a free zone in Basra while Iraq would have one in Latakia. This accord, however, was never ratified and has now been discarded, partly because both countries meanwhile have participated in the inter-Arab economic agreement and partly because certain interests in both countries opposed the extensive concessions which were to be made.

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[4] Linen, jute and hemp yarn and cords, asphalt, raw and tanned hides, glass products, apricot paste, etc., among Syrian exports and phosphates, marble, potassium, olive oil and cheese among Jordanian exports.

Economic relations between Syria and Saudi Arabia and Syria and Egypt are regulated by 1950 trade agreements which aim at promoting commercial relations within the framework of each country's import and export regulations. They do not provide for any preferential treatment.

A provision frequently included either in the text of an agreement or in the accompanying exchange of letters emphasizes the use of Latakia for trade with the partner country. It was included, for example, in the agreements with Greece and Japan.

Currencies and other payments provisions are specified in the agreements with Greece, Czechoslovakia, Japan and Yugoslavia. In the case of Greece, the currency employed is sterling, whereas in most of the others it is U. S. dollars or any convertible exchange; the choice of another currency, even one not convertible, may be agreed upon for individual transactions. A unique provision was included in the exchange of letters accompanying the Yugoslavian agreement: Yugoslavia will be prepared, in certain cases, to accept payments in the form of Syrian exports (cereals and cotton) for services rendered by Yugoslav engineers and contractors.

Multilateral. Syria has left GATT because it preferred to be free in its commercial policy. Syrian exports consist mainly of essential raw materials which by their nature enjoy low tariffs. Moreover, membership in GATT could not readily be reconciled with embargoes.

In September 1953, representatives of Lebanon, Syria, Jordan, Egypt and Iraq signed two mutilateral inter-Arab agreements, one on trade and transit, the other on payments and capital transfers. These agreements were ratified by Lebanon, Jordan and Egypt and, in May 1954, by Syria,[8] and have become effective.

The Inter-Arab Agreement on Trade and Transit lists agricultural products which are to be duty free if originating in one of the participating countries, and certain industrial goods which, in similar circumstances, benefit from a 25% reduction in prevailing tariffs. In addition, the participating countries undertake not to impose on such imported goods any internal taxes higher than those imposed by the importing country on similar domestic commodities; they also assure each other preferential treatment as far as import and export licenses are concerned. The new agreement does not invalidate existing bilateral agreements nor does it prevent the conclusion of such agreements at future dates. The contracting parties undertake further to facilitate for each other the transit of goods, personal effects and of animals by all means of transportation foreseen by their respective customs regulations. 439

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[8] In January 1955 they were also ratified by Iraq.

The Lebanese-Syrian trade agreement and the agreement between Syria and Jordan include certain items not included in the inter-Arab agreement and vice versa. There are also certain differences in the definition of industrial or agricultural goods. By and large, however, the Arab agreement is regarded as more favorable to Syrian trade than are the agreements with Lebanon or with Jordan. It may open the door to more exports of agricultural products and may allow an expansion of industrial exports, even though Syria itself may be faced by an increased inflow of some of Lebanon's industrial production. Both Syria and Lebanon, being comparatively more industrialized countries, are likely to benefit from the opening of Iraq's fairly extensive market.

The Inter-Arab Agreement on Payments and Capital Transfer provides for preferential treatment of transfers for mutual payments on current account and for transfer facilities with regard to capital participation in development projects on which the interested parties may agree. The partners more specifically guarantee each other certain minimum payment facilities which come very close to free convertibility of resident accounts for current transactions within their joint territories. They also guarantee each other freedom from fiscal discriminations with regard to all capital transferred under the provisions of the agreement as well as its free repatriation. Regulations for the prevention of capital flight from the Arab countries are left to the authority of the individual countries.

IV CONDITIONS AFFECTING FOREIGN INVESTMENT

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General

Certain features of the Syrian economy should be attractive to foreign investment. The country still has undeveloped resources; profits are high; there is a degree of economic stability; free market rates of the Syrian pound have been stabilized for some time and the country has practically

457 no foreign exchange restrictions; private ownership and initiative predominate; the country has an influential class of businessmen and entrepreneurs which maintains satisfactory relations with foreign business circles. Yet, apart from the banking sector (and even here most, if not all, the new foreign funds seem to have become available on a short-term basis), the inflow of medium- or long-term private investment from abroad has, so far, apparently not been very large, although accurate estimates are lacking. Part of the explanation may be the lack of political stability within the area and the discouraging effects of frequent changes of political organization and leadership in Syria itself. The question arises, however, whether certain recent Syrian legislative and administrative policies may not also have contributed to discourage potential foreign investors.

Legislation

457 471 Complaints are sometimes heard against Decree No. 151 of March 1952, relating to companies and commercial firms established outside Syria. Its principal provisions are that all kinds of companies established outside Syria may be represented in Syria only by Syrian nationals or by commercial companies established in Syria under applicable regulations. These regulations require that not less than two-thirds of the capital of such companies must be in Syrian hands and that a majority of the managers (in the case of cooperatives and partnerships) or the members of the board of directors (in the case of joint stock companies) must be Syrian. The law also imposes some fairly elaborate conditions under which branches of companies established abroad may be registered in Syria. Similar provisions apply also to Syrian agencies of companies established outside Syria.

About the same time, in April 1952, Decree No. 189 prohibited foreign ownership of agricultural land. Article 1 provides that "Non-Syrians, whether natural or legal persons, shall be prohibited from establishing, altering or transferring any right concerning real estate or concluding any agreement for rental and exploitation of agricultural land in Syria for a period in excess of three years." Exempted from these provisions are transfers of inherited rights to real estate, provided reciprocity is accorded in the country of the beneficiary, and transfers of real estate located within the limits of larger towns (provincial capitals). The law's preamble declares its purpose to be the retention of Syrian land in Syrian ownership, permitting Syrians alone to exploit it and to benefit from its resources. But

while the intention of the law is thus apparently to prevent farm land from 457
falling into the hands of foreigners, its terms would also exclude foreign 471
acquisition of, for example, factory sites outside the limits of major towns, and land for oil prospecting and for construction of gasoline and service stations. At the time of this writing the Syrian Council of Ministers was considering a draft bill under which non-Syrians would be permitted through ordinary decree to own property outside city limits.

Government Policies

There is reason to believe that Decree No. 151 has not been inflexibly applied and that practically all requests for exemptions permitted by the law have been granted. Some harm by way of discouragement to foreign investment may have been done, nevertheless, because the harshness of the terms of the law are understandably but unfortunately better known and more widely publicized abroad than the leniency of its application in individual cases.

The nationalization of power and transport companies in January 1951 affected primarily the foreign owned companies in Aleppo and Damascus. In view of the fact that nationalization of public utilities is not limited to Syria, nationalization itself is unobjectionable. Statements issued by the Syrian Government at the time of the nationalization envisaged a just compensation. However, four years elapsed before the first agreement on compensation was reached with one of the two companies and a settlement with the other is still pending. Regardless of the causes of the delay and without in any way passing judgment as to which side may have been at fault, it should be observed that the fact of the long delay in reaching a final settlement has not passed unnoticed in financial circles outside of Syria and may well have had an adverse effect on prospects for foreign investment in the country.

Appraisal

A certain excess of zeal in trying to preclude a sharing of national resources with foreign entrepreneurs is not a unique phenomenon. It is not surprising that the postwar wave of economic nationalism did not by-pass Syria. There were, moreover, certain experiences in Syria's comparatively recent history which explain this reaction. But although the reasons for the adoption of such policies may be clear, their wisdom is open to dis-

457 471 pute. Syria no longer need prove its determination to stave off unwanted external interference or infiltration. But it does stand to gain by demonstrating that the resourcefulness of its business community is matched by the government's mature understanding of the country's enlightened self-interest.

It is worth emphasizing that policies which discourage foreign investment are inconsistent with Syria's own record in other fields, such as that of foreign exchange. The free transfer out of Syria of capital and profits in itself creates a basic condition for the influx of funds from abroad. That it was obviously intended to have this effect is confirmed by the legislative motivation of Exchange Control Decree No. 637 of April 21, 1952, which explains that the new regulations aim at making it possible for nonresidents to open accounts with authorized Syrian banks in both foreign and local currency, without any restrictions or conditions. They are thus designed to foster, by means of free inflow and outflow of foreign capital, both short- and long-term foreign investment in Syria.

Finally, it can be pointed out that several underdeveloped countries whose position is not basically different from Syria's have been tending to remove all obstacles in the way of the inflow of capital and outside enterprise. This is true of Pakistan, India, Turkey, and Lebanon; particular reference should be made to recent changes in Egypt's legal and administrative treatment of foreign investors.

Syria's ratification of the Inter-Arab Payments and Capital Transfers Agreement was undoubtedly motivated by a very justified desire to facilitate the movement into Syria of investment funds from some of the oil-rich neighboring countries with limited domestic investment possibilities. Yet this capital is not likely to be attracted as long as legislation or practices discriminating against foreigners in Syrian business remain in force.

v FOREIGN DEBT

457 652 Syria's only external debt is an interest-free loan of U. S. $6 million made by Saudi Arabia in 1950, repayable in four equal annual installments beginning in 1955. The loan agreement was combined with a commercial agreement and provides for repayment in the form of Syrian exports.

Syria's debt to Lebanon, arising from the withdrawal by Lebanon in 1948 of £S 44.6 million circulating in Lebanese territory, has been settled

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by the aforementioned 1952 agreement, under which the Syrian Government ceded to Lebanon about 4 billion French francs which constituted part of the Syrian note cover and were held at the French Treasury. In other words, the Lebanese Government took the place of the Syrian Government in receiving French franc installments due from France to Syria according to 1949 financial agreements between the latter countries.

In 1952 and 1953 Syria repurchased certain amounts of its own currency[8] from the International Monetary Fund in gold and U. S. dollars, thereby adjusting its quota subscription to the IMF.

Obligations for external payments, hitherto unspecified, may arise from compensation to be paid to the former owners of the nationalized power companies.

VI THE FOREIGN EXCHANGE POSITION

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History of Exchange Controls

Foreign exchange controls were introduced in Syria in the first months of World War II. After a number of changes, they were gradually relaxed and in April 1952 were completely recodified. A brief review of the main stages of this development follows.

The first stage lasted until August 1948. Although in April 1944 administration of the controls passed from the French mandatory authorities to Lebanese and Syrian offices,[7] the system itself remained largely unchanged. Under it, all foreign exchange transactions were subject to license. Export proceeds as well as foreign exchange receipts from invisibles had to be surrendered at official rates to the Exchange Office, which supplied a certain amount of exchange for licensed imports and other payments. Exports of both foreign exchange and domestic currency required authorization. Regulations for the French franc area continued to be applied even after independent Syrian authorities took over the operation of the system in February 1948.

During the second stage, from August 1948 until September 1949, controls were considerably relaxed and a free foreign exchange market was

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[8] £S 916,000 in 1952 and £S 2.271 million in 1953, at official exchange rates.

[7] Which operated jointly until the dissolution in February 1948 of the de facto monetary union between the two states and separately thereafter.

457 officially recognized. Exporters were obliged to cede only part of their receipts; imports continued to be licensed but were paid for mainly by foreign exchange obtained in the free market. Allocations of foreign exchange at the official rate were largely limited to imports by government agencies and to imports of petroleum products. Transfers of exchange not quoted by the Exchange Office or obtained in the free market could be freely effected. The Exchange Office continued its responsibility for exchange from all transfers of capital from abroad, but of receipts from specified invisibles at first 20% and later only 10% had to be surrendered to the Exchange Office at official rates. Some companies operating under special contract (oil companies, in practice) were obliged, however, to sell to the Exchange Office, at the official rates, 80% of specified currencies.

Beginning in September 1949 export proceeds were freed from restrictions and a newly created Foreign Exchange Fund began to purchase exchange in the free market to supplement the amounts of exchange acquired by the government at official rates.

With the end of the Customs Union with Lebanon in March 1950 an autonomous monetary policy was inaugurated. Experiments were undertaken with a new foreign exchange regime, adapted to the needs of the Syrian national economy. The foreign exchange market was split up into a completely free market and a market for "exportation exchange." The latter was supplied by exchange from the proceeds of certain exports to certain countries to be sold only to importers. Exchange earnings of Syria's most important exports were, in effect, earmarked for this market. Because of the somewhat limited disposability of the "exportation exchange," rates for this exchange were slightly lower than those for completely free exchange. For the first time foreign exchange restrictions were applied between Syria and Lebanon.

Based on the experiences of previous years, the exchange control legislation was recodified in April 1952 and the recodification, with a few subsequent amendments, is still in effect.

The Present System of Exchange Controls and Its Operation

Administration. The final authority on all matters pertaining to exchange policy and controls is the reorganized Exchange Office, which since 1952 has performed the functions of the former separate Government Commissariat, the Control Office and the Exchange Fund. The office is headed by a board consisting of a president, designated by the Minister of Finance, and one delegate each from the Ministries of Finance and of National Economy. It has considerable administrative and financial autonomy, making decisions with respect to all transactions; prior to April 1952 not only actual operations but also some of the policy decisions were the responsibility of the BSL. In the absence of a true central bank the Exchange Office also operates in the monetary field to a certain extent; it handles transfers resulting from the country's payments agreements, buys and sells assets for and from the note cover of the Syrian pound and tries to stabilize domestic currency.

The responsibility for recording the exchange proceeds of most exports lies with the authorized commercial banks.

Import licenses are issued by the Ministry of National Economy.

Exchange Rates. Syria has, at present, two foreign exchange rates: an official rate and a fluctuating free market rate (the official rate is £S 2.19 for buying and £S 2.21 for selling, per U. S. dollar).[8] Governmental transactions were shifted in July 1953 to the free market rate, so that almost the only foreign exchange transactions to which the official rate now applies are importations of petroleum products and purchases of local currency by an oil company.

With regard to the free market rates, the intervention of the reorganized Exchange Office brought about two important developments: the separate rate for "exportation exchange" has been eliminated and since February 1953 a single rate is applied to all exchanges not transacted at the official rate; the free market rate of the dollar has been de facto stabilized since August 1953 and the fluctuations of other principal exchange rates quoted in Syria have been reduced. Table 18 shows the average free market rates of the dollar since September 1949.

In Syria the exchange rate of the dollar, like the exchange rates of the other major currencies (sterling, French franc, Belgian franc, Swiss franc and Lebanese pound), is influenced seasonally by the greater concentration of exports in the second half of the calendar year. During this period, specifically between August and December, when advances from foreign importers begin to flow in, rates tend to be low. Syrian imports, on the other hand, are spread more evenly throughout the year; hence exchange rates tend to be higher during those months in which demand is not matched by an abundance of exchange from current export proceeds.

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[8] Par value announced by the IMF on July 29, 1947 is £S 2.19148 per U. S. dollar.

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TABLE 18 Average Exchange Rates of U. S. Dollar, 1949-54

(Piasters per $)

	1949	1950	1951	1952	1953	1954
January	—	352	364	385	369	357.5
February	—	352	351	387	372	357.5
March	—	357	351	389	371	357.5
April	—	361	350	388	367	357.5
May	—	365	359	375	363	357.5
June	—	368	355	367	359	—
July	—	396	354	359	356.5	—
August	—	400	360	357	357.5	—
September	332	373	359	355	357.5	—
October	347	357	367	360	357.5	—
November	339	365	380	363	357.5	—
December	350	370	383	369	357.5	—

SOURCE: Rapport Officiel de l'Office des Changes (Avril 1953); Bureau des Documentations Syriennes et Arabes.

Apart from these internal trends, the Syrian free foreign exchange market of course also reflects international factors to a greater or lesser degree. Between July and October 1950, for instance, the increased demand for foreign exchange following the outbreak of the Korean war more than offset the normal seasonal fluctuations.

The intervention of the Syrian Exchange Office limited maximum annual fluctuations between August 1952 and July 1953 to 17 piasters per dollar (less than 5% of the average annual rate) as against 30 piasters (about 8%) during the preceding 12 months. Since August 1953 the rate has remained stable at 357.5.

Since the Exchange Office has stabilized the dollar rate in the light of the demand and supply situation, its buying and selling rates for other currencies have generally followed the free market rates, reflecting the relative strength of these currencies vis-à-vis the dollar. Official cross-rates are therefore not maintained, as illustrated in Table 19.

Regulations affecting foreign exchange. Although with a few exceptions all imports are still subject to prior license, foreign exchange for settlement of their payments is readily made available by approved banks at free market rates. Import licenses need the formal endorsement of the Exchange Office.

TABLE 19 Average Exchange Rates of Selected Currencies

Year	£[a]	Fr.Fr.[b]	Sw.Fr.[a]	B.Fr.[a]	£E[a]	£L[a]
1949						
October	910	901	82.80	6.50	881	109
1950						
January	838	882	82.70	6.83	891	109
April	923	894	84.57	6.82	928	112
July	1,093	1,098	90.81	7.78	982	108
October	936	941	83.08	6.78	977	101
1951						
January	941	959	86.46	6.80	953	106
April	910	946	81.88	6.69	958	105
July	883	933	81.78	6.93	905	102
October	882	860	84.20	6.96	909	101
1952						
January	919	914	88.50	7.50	910	101
April	980	932	89.60	7.72	960	103
July	923	936	84.00	7.05	831	101
October	955	924	85.50	6.90	865	101
1953						
January	1,000	946	86.10	7.18	—	103
April	998	975	85.30	7.14	—	104
July	970	967	83.25	6.85	—	106
October	973	952	83.40	6.92	—	109
1954						
January	—	—	—	—	—	—
April	997	990	83.28	7.08	—	111
July	—	—	—	—	—	—

[a] In piasters per unit of quoted currency.
[b] In piasters per 1,000 units of quoted currency.

SOURCE: Rapport Officiel de l'Office des Changes (Avril 1953); Bureau des Documentations Syriennes et Arabes.

Foreign exchange from exports must in principle be repatriated and sold to an approved bank. This is true of Syria's most important export goods, representing about 80% of the value of total exports. Proceeds must be obtained in currencies prescribed by the Exchange Office; in practice the currency of the country to which the goods are exported is usually requested or a stronger currency, at the exporter's choice. Proceeds from exports to Bahrein, Iraq, Jordan, Kuwait and Saudi Arabia—all countries with which Syria habitually has a favorable trade balance, and to which some of Syria's "unrecorded" exports are directed—are not subject to this regulation.

457 *Invisibles and capital movements.* No regulations apply at present to the proceeds from invisibles and such exchange may be held, sold in the free market, or otherwise disposed of. Exchange for invisible payments may be readily obtained at free market rates. Imports and exports of capital are free of all restrictions and may be dealt with in the free market without limitations.

Appraisal of the System

The continuation of strict foreign exchange regulations until 1948, three years after the termination of hostilities in the area, probably reflects the desire of the authorities to assist in a smooth transition from a wartime to a peacetime economy. But actually in both Syria and Lebanon the gradual relaxation of controls seemed to have represented in many cases nothing more than a formal adapation of the law to existing practices.

Syria developed its exchange regulations and policies on the basis of a realistic analysis of the conditions in which its foreign exchange market operates: the strong link with the neighboring Beirut market; the absence of a developed monetary and banking organization; the absence of adequate statistical information; the inadequacy of foreign exchange reserves.

Beirut is an important center of diverse banking and foreign exchange transactions and served both Lebanon and Syria until the separation of the two economies. It is generally more active than the markets of Aleppo and Damascus, draws its supplies from a greater variety of sources and is more speculative. The requirement that export proceeds be repatriated, reintroduced in Syria shortly after the end of the Customs Union, arose mainly from the desire to strengthen the domestic exchange market by breaking the habit of merchants of carrying out most of their financial operations in the neighboring countries. Although this purpose has apparently been achieved, the possibility of recourse to Beirut has been by no means eliminated and always looms in the background. This somewhat limits the freedom of Syrian policy makers and would undoubtedly act as a deterrent if a stricter currency regime were attempted in Syria. It is also fairly obvious that any attempts to eliminate the existing broken cross-rates in Syria would be of no avail, as long as such cross-rates are maintained in other countries and, in particular, in Lebanon.

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The new monetary and central banking legislation, which more or less paralleled the 1952 reorganization of the Syrian exchange controls and of the Exchange Office, was not fully implemented until 1954. Hence the necessity for the Exchange Office to substitute, in certain respects, for a Central Bank or for a Stabilization Fund. There is also apparently no prospect that private banks in Syria could now absorb seasonal surpluses of foreign exchange without substantial fluctuations of exchange rates. The Exchange Office which now acts, either directly or via banks, as the principal buyer and seller of foreign exchange has thus stepped into the role previously performed by financiers from abroad. Recently introduced forward buying of foreign exchange from exporters aims at a further limitation of the country's dependence on foreign importers and banks.

The Exchange Office started with very little experience and almost without any of the current information which normally provides the basis for policy decisions of institutions of this kind. The first somewhat timid interventions in the market are explained by their experimental nature. These difficulties have now been in part overcome, thanks to the successfully developed new system of banking statistics.

Finally, at the time of the reorganization of its exchange control system, Syria had only very limited reserves. The total official holdings of gold and of convertible foreign exchange amounted, as of June 30, 1952, to the equivalent of £S 40.3 million; at the official rate this corresponded to 16% of the currency in circulation and represented the value of approximately five weeks of average imports. The Exchange Office could therefore not be endowed with funds which would constitute a "masse de manoeuvre" sufficient to intervene forcefully and decisively in the market.

In view of all these difficulties, the record of the new Exchange Office and of its policies brings much credit to the combined efforts of Syrian talent and first-rate foreign advice responsible for its operations. The development of the domestic foreign exchange market brought the foreign exchange position and the domestic currency circulation into closer relation with the foreign trade of the country than it was before. The de facto stabilization of the U. S. dollar exchange rate is of immediate importance for the country's economic development, since it is a prerequisite for encouragement of domestic savings as well as for foreign credits and investment. The increase in Syria's foreign exchange reserves is also of special significance.

Foreign Exchange Reserves

457 The Exchange Office has actively intervened in the free exchange market since July 1952. Up to January 1953 it operated at the prevailing free rates apparently without retarding the Syrian pound's trend toward appreciation; since then, the Exchange Office has actually set the rate by announcing daily quotations at which it would be prepared to buy and sell foreign exchange.

While the operations of the Exchange Office in 1952 resulted in an insignificant net sale of foreign exchange (the sales amounting to £S 128 million as compared to purchases to the value of £S 127 million), the Office was in 1953 a net buyer of foreign exchange, as is shown in Table 20.

TABLE 20 Transactions of the Exchange Office in Principal Currencies, 1953

(Million currency units)

Currency	Purchases	Sales	Net purchases or net sales (−)
U.S. dollars	42.1	26.0	16.1
Pounds sterling	4.6	7.3	−2.7
French francs	6,625.9	4,931.7	1,694.2
Belgian francs	2,228.0	1,790.3	437.7
Lebanese pounds	35.8	17.5	18.3
Swiss francs	0.9	1.3	−0.4

SOURCE: Le Commerce du Levant, Beirut, Lebanon, June 26, 1954.

Table 21 indicates the changes in the official holdings of gold and foreign exchange of Syria during the last three years. A comparison of the totals (at the free foreign exchange rate) at the end of 1952 and the end of 1953 shows an increase of £S 49.3 million while an increase of £S 52 million is shown in the balance of payments estimate (see below). This discrepancy is due to the fact that the first figure is calculated on the basis of the foreign exchange rates prevailing at the end of each year while the second figure is derived from the net transactions of the Exchange Office effected through 1953 at current rates.

TABLE 21 Official Holdings of Gold and Foreign Assets, 1951–53

(Million £S)

End of year	Gold	U.S. $	Inconvertible currencies	Total: At official rate	Total: At free rate	% of total in gold & U.S. $
1951	24.7	4.0	44.7	73.4	114.1	39.1
1952	31.7	17.5	15.3	64.5	107.4	76.3
1953	31.7	45.5	20.7	97.9	156.7	78.8

SOURCE: Council on Money and Credit.

VII BALANCE OF PAYMENTS

No balance of payments estimates could be made before 1950, until which time, as already mentioned, not even national trade statistics were available. Since then estimates have been made regularly with an increasing degree of accuracy. Margins of error must be allowed for; they may be particularly large with regard to the adjustments of exports and imports for undervaluation and for smuggling, and on invisible items such as profits from transit trade, tourism, emigrant remittances and private capital movements outside banks.

Yet, the fact that the IMF has found it possible to include estimates of the Syrian balance of payments in its Balance of Payments Yearbook is one more indication that these estimates can be regarded with a certain confidence.

Trade Balance

Table 22 shows merchandise transactions of Syria during the last three years, indicating what adjustments have been made.

The reason for the undervaluation of the declared value of exports is to enable foreign importers to pay lower import duties in their countries, wherever ad valorem duties obtain. Undervaluation of imports arises obviously from the desire to pay lower customs duties under Syria's ad

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TABLE 22 Merchandise Transactions, 1951–53

(Million £S)

	1951	1952	1953
Exports, f.o.b. in customs returns	277	320	376
Adjustment for undervaluation	15	17	19
Unrecorded exports (net)	—	—	13
Total adjusted exports	292	337	408
Imports, c.i.f. in customs returns	291	303	307
Addition for:			
Exchange rate adjustment	120	131	164
Undervaluation	5	6	12
UNRWA imports	—	—	1
Unrecorded imports (net)	2	4	—
Total adjusted imports	418	444	484
Trade deficit	−126	−117	−76

SOURCE: IMF Balance of Payments Yearbook; Syrian Government.

valorem tariffs. In both cases adjustments are based on estimates by Syrian officials.

The same source provided the estimates for unrecorded trade, which are, of course, no more than rough guesses. It is apparently believed that in 1951 and 1952 more was smuggled into the country than out of it. For 1953 it was assumed that unrecorded trade roughly balanced in both directions except for gold. As Syrian customs figures record gold imports but do not reveal gold exports in 1953, when such exports were forbidden, and as all the gold imported during that year for non-monetary purposes (£S 13 million) is believed to have been re-exported, a corresponding amount has been included as unrecorded exports in the 1953 balance of payments estimate.

Recorded imports do not include armaments, on which information is not available. Nor do they include supplies for refugees donated by the United Nations Relief and Works Agency (UNRWA); in 1953 the value of the latter was recorded separately.

Since customs figures for imports are based on the official exchange rate, adjustments were made by applying the average annual exchange rates to imports from the various currency areas.

TABLE 23 Syria's Balance of Payments, 1951–53

(Million £Syr. 457

	1951		1952		1953	
	Credit	Debit	Credit	Debit	Credit	Debit
A. *Goods and services*						
Merchandise (exports f.o.b.; imports c.i.f.)	292	418	337	444	408	484
Transit trade	5	—	5	—	6	—
Foreign travel	13	13	13	13	15	24
Oil companies	54	—	50	—	49	—
Miscellaneous receipts and expenditures	7	2	10	4	10	4
Total (A)	371	433	415	461	488	512
B. *Private donations and capital movements*						
Emigrant remittances	10	—	10	—	10	—
Private transfers (excluding banks)	15	—	24	—	20	—
Total (B)	25	—	34	—	30	—
C. *Miscellaneous official financing*						
UNRWA	11	—	11	—	10	—
Settlement of Government debt	—	—	—	37[b]	—	—
Total (C)	11	—	11	37	10	—
D. *Errors and omissions*	6	—	26	—	—	6
Total (A–D)	413	433	486	498	528	518
E. *Compensatory financing*						
Banks (net)	14	—	5	—	46	—
Government	15[c]	—	—	2[d]	—	4[d]
Monetary Reserves	—	9	9	—	—	52
Total (E)	29	9	14	2	46	56
Total (A–E)	442	442	500	500	574	574

[a] At free market rate.

[b] Settlement of debt with Lebanon. The total amount due to Lebanon over the period 1942 to 1944 inclusive was set aside in 1952 in a blocked account with the BSL and subtracted from the monetary reserves.

[c] Drawings on the Saudi Arabian loan.

[d] Repurchases with IMF.

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Balance of Payments Estimates

Table 23 attempts an analytical presentation of Syria's balance of payments during the last three years. It is based on studies of the Syrian Ministry of Finance.

The following is a more detailed analysis of the calculations underlying the estimates for foreign travel in 1953.

(Million £S)

Credit		Debit	
Foreign legations	8	Syrian students abroad	6
Foreign tourists	2	Syrian legations (net)	2
Lebanese visitors	5	Syrian tourists	1
		Syrian visitors to Lebanon	15
Total	15	Total	24

Restrictions on Syrian travel to Lebanon were greatly relaxed in 1953[*] which accounts for the large increase in expenditure for this item.

Receipts from oil companies shown in Table 23 include payments to the government under terms of concessions and rates of foreign exchange by the companies to cover local expenditures. The latter decreased with the completion of the new installation for transport of oil (TAP line and IPC pipelines and the oil port of Banias).

Miscellaneous receipts and expenditures include income from investment abroad and transfer of profits from foreign investment in Syria as well as various other non-recurrent receipts and expenditure.

As no data exist with respect to fluctuations of receipts from emigrant remittances, the original estimate is repeated.

What should be shown under UNRWA donations is the total of foreign currency imported into Syria by UNRWA during the calendar year, plus the value of goods imported into Syria and financed by UNRWA from outside funds. From this total should be deducted the value of supplies purchased in Syria with the aforementioned funds, re-exported by UNRWA to neighboring countries and therefore already counted under recorded export proceeds. A detailed investigation of these figures carried out for 1953 gave a result very close to the estimates for previous years.

No data are available on capital movements in the private sector outside banks. This position, being residual, can be considered jointly with

[*] And abolished in the spring of 1954.

errors and omissions. Capital movements through banks are recorded with increasing accuracy thanks to the recently introduced new system of banking statistics. The remarkable increase of obligations in the banking sector in 1953 is explained by transactions connected with the financing of the crops which are now apparently carried out by Syrian banks, including Syrian branches of foreign banks, to a greater extent than in previous years.

Compensatory government financing includes drawings on the Saudi Arabian loan in 1951 and the settlement of a repurchase obligation with regard to the IMF in 1952 and 1953.

In 1951, monetary reserves increased despite a balance of accounts deficit. This was because drawings on the Saudi Arabian loan and a decrease in net foreign deposits with banks more than offset the balance of accounts deficit. In 1952 the balance of accounts deficit and a repurchase of Syrian pounds from the IMF were reflected in a decline in monetary reserves except for a minor increase in net external liabilities of banks. In 1953 the balance of accounts showed a surplus; the monetary reserves increased considerably, despite a further repurchase of Syrian pounds, thanks to a substantial increase in net foreign advances to banks. This importation of banking funds in 1953 was apparently occasioned by the credit needs of the expanding economy and represented, in part at least, a form of prepayment of the larger volume of exports which developed during the following year.

Future Trends

In Syria, not unlike other underdeveloped countries, an adverse balance of trade and a surplus of invisibles on current accounts have been recurrent features during the short period under observation.

If 1950 is disregarded (in view of the abnormal configuration of prices following the outbreak of the Korean war and that year's statistical shortcomings) the Syrian balance of trade shows a steady tendency to improve. This improvement is mainly due to increased exports; there is reason to expect that their growth will continue.

During the last three years, an average of 70-80% of the value of Syria's exports was represented by agricultural and livestock products. Unless present prices of these goods show further substantial decreases, a growth in the volume of exportable quantities should have a more or less direct impact on the value of exports.

457 On the assumption that the development program recommended by the mission will be adopted, the rising trend in agricultural production may well continue, particularly because of increasing yields. The livestock population has been growing steadily since 1949. The carrying out of the mission's recommendations in this field may lead to an even greater increase in the value of livestock production.

The mission feels justified in anticipating that by 1960 Syria will have sufficient agricultural surpluses not only to close a trade gap of the magnitude estimated for 1953 but even to provide a small favorable balance. Such a balance might be somewhat increased by the growth of the industrial exports, perhaps stimulated by the opening of new markets within the Arab preferential trade area.

On the other hand, imports cannot be expected to remain at their present level at a time when both the population and average incomes are expected to grow. Import restrictions may be relaxed; equipment for development projects will have to be purchased from abroad. To attempt to weigh these possible import increases against the above-mentioned surpluses would be entering into the realm of pure speculation. It can be said, however, that barring any unexpected major unfavorable price movements, and given continued growth of the Syrian economy, exports may, generally speaking, tend to equilibrate with imports.

If Syria's considerable tourist assets can attract increasing numbers of foreign visitors, this would tend to offset expenditures resulting from the desire of Syrians to visit Lebanon. While UNRWA expenditures cannot be expected to continue indefinitely, emigrant remittances will presumably continue and revenues from oil companies will almost certainly increase. There is no reason to believe that invisible transactions on current accounts will cease to show net credit balances.

Thus, the general prospects of Syria's balance of payments on current account seem to be good and modest surpluses would appear to be more likely than deficits.

There is no basis on which to predict capital movements. Given political stability, an influx of funds from abroad could well take place; if so, this would of course accelerate the rhythm of Syria's economic growth.

ANNEX B *PUBLIC FINANCE*

1 SUMMARY STATISTICS ON GOVERNMENT FINANCE

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It is difficult to obtain from Syrian statistics a clear and complete picture of the government's fiscal operations. Inadequacies in government budgeting and accounting handicapped the mission in making a full appraisal of past accomplishments and tend to make difficult careful planning for the future.[1] This Annex has therefore been written within the limitations of the data available.

TABLE 1 Ordinary Budget of Central Government, 1945–54[a]

(*Million £S*)

Period[b]	Expenditures			Receipts	Surplus (+) or deficit (—)
	Defense	Other	Total		
1945	16.4	82.7	99.1	118.3	+19.2
1946	27.8	84.7	112.5	120.7	+8.2
1947	20.8	102.4	123.[illegible]	116.2	−7.0
1948	44.8	91.5	136.3	116.1	−20.2
1949	49.3	91.8	141.1	136.1	−5.0
1950–51	102.5	131.6	234.1	208.3	−25.8
Annualized[c]	68.4	87.8	156.1	138.9	−17.2
1951–52	104.6	161.4	266.0	271.7	+5.7
Annualized[c]	69.8	107.7	177.4	181.2	+3.8
1953	66.0	131.0	197.0	216.7	+19.7
1954	75.4	133.7	209.1	202.0	−7.1
1945–54	507.6	1,010.8	1,518.4	1,506.1	−12.3

[a] Closed accounts, 1945, 1946, 1947; provisionally closed accounts, 1948, 1949, 1950–51; preliminary figures, 1951–52 and 1953 budget estimates, 1954.

[b] Calendar years except for two 18-month periods: January 1, 1950–June 30, 1951; and July 1, 1951–December 31, 1952.

[c] Arbitrarily.

NOTE: Figures are exclusive of additions to, and withdrawals from, reserve fund and loans from Issue Department.

SOURCE: Derived from data provided by Department of Budget and Financial Control, Ministry of Finance.

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[1] See p. 263 et seq.

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Central Government Expenditures and Receipts

Over the decade 1945-54 expenditures recorded in the ordinary budget of the central government doubled (Table 1). Receipts also increased and over the period as a whole were almost as large as ordinary budget expenditures. Sizable budget deficits were incurred, however, in the years 1947-51, whereas substantial surpluses were realized in 1945 and again in 1953. The 1954 budget contemplates a deficit, but it may be noted that the 1953 budget also forecast a deficit while, according to preliminary figures, there was a large surplus. Roughly one-half of the growth in ordinary budget expenditures from 1945 to 1954 was attributable to larger spending for national defense and one-half to other programs. The mission has restricted its analysis and comments to the non-defense sector but of course has had to take defense expenditures into consideration in its general appraisal of government finance.

Among non-defense expenditures, outlays for general government functions—combining the Presidency, Parliament, and Supreme Court and the Ministries of Foreign Affairs, Finance, Interior, and Justice—declined from 38% of total non-defense costs in 1945 to 32% in the 1954 budget (Table 2). The functions of the Ministries of Agriculture and National Economy accounted for around 5% of non-defense expenditures at the beginning and end of the decade. On the other hand, expenditures on education, health and public welfare rose spectacularly from 16.7% of total non-defense costs in 1945 to 34.4% in the 1954 budget. Ordinary budget expenditures on public works and pensions and subsidies increased in absolute amount but not so rapidly as expenditures on other non-defense functions and hence constituted a significantly smaller percentage of the total at the end of the period than at the beginning. Somewhat more detailed figures on expenditures appear in Appendix A.[2]

The ordinary budget does not include certain advances to autonomous or semi-autonomous agencies or certain extraordinary defense expenditures and receipts. The extrabudgetary advances have covered a substantial volume of development expenditures in recent years. These outlays were financed from available funds of the Treasury and by government-guaranteed advances from the Issue Department of the privately owned Banque de Syrie et du Liban (BSL), (Tables 3 and 4).

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[2] See p. 289.

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TABLE 2 Non-defense Expenditures in Ordinary Budget of Central Government

(*Thousand £S*)

Item	1945		1948		1951–52[a]		1954[b]	
	Amount	%	Amount	%	Amount	%	Amount	%
Presidency, Parliament, and Supreme Court . .	3,141	3.8	3,146	3.4	3,295	3.1	5,137	3.8
Ministry of Foreign Affairs	1,520	1.8	2,925	3.2	3,166	2.0	4,303	3.2
Ministry of Finance[c] . .	4,016	4.9	5,809	6.4	7,600	7.1	8,572	6.4
Ministry of Interior. . .	18,607	22.5	20,035	21.9	18,168	16.9	17,102	12.8
Ministry of Justice. . .	4,022	4.9	5,426	5.9	5,823	5.4	7,422	5.6
Ministry of Education . .	10,401	12.6	20,536	22.5	31,264	29.1	37,097	27.8
Ministry of Public Health	3,413	4.1	3,444	3.8	4,975	4.6	8,764	6.6
Ministry of National Economy	871[d]	1.1	1,315	1.4	995	.9	1,527	1.1
Ministry of Agriculture .	2,929	3.5	3,894	4.3	3,676	3.4	5,781	4.3
Ministry of Public Works	14,667	17.7	16,889	18.5	11,196	10.4	17,243	12.9
Posts, Telegraphs, and Telephones	1,507[e]	1.8	—	—	—	—	—	—
Pensions, subsidies, and other financial obligations	17,569	21.3	8,028	8.8	17,519	16.3	20,700	15.5
Total	82,663	100.0	91,447	100.0	107,678	100.0	133,648	100.0

[a] Annual rate arbitrarily derived from figures for 18 months July 1, 1951–December 31, 1952.

[b] Budget estimates.

[c] Excludes pensions, subsidies, and miscellaneous financial obligations. Includes Office of Printing and Official Gazette.

[d] Excludes bread subsidies, which are included in item "Pensions, subsidies and other financial obligations."

[e] Gross expenditures. Beginning in 1947 these outlays were transferred to an annexed budget.

NOTE: Figures are exclusive of additions to reserve fund.

SOURCE: Derived from data provided by Department of Budget and Financial Control, Ministry of Finance.

TABLE 3 Financing Outside Ordinary Budget, 1945–53

(Million £S)

Calendar year	From available Treasury funds	From Issue Department	Total
1945	1.9	—	1.9
1946	4.1	1.0	5.1
1947	8.1	5.4	13.5
1948	7.0	50.7	57.7
1949	9.4	13.9	23.3
1950	10.9	11.7	22.6
1951	13.3	28.7	42.0
1952	7.5	21.6	29.1
1953	10.2	10.5	20.7
Total	72.4	143.5	215.9

SOURCE: Council on Money and Credit.

TABLE 4 Outlays Financed Outside Ordinary Budget, 1945–53

(Million £S)

Item	From available Treasury funds	From Issue Department	Total
Automatic telephones	34.5	—	34.5
Major irrigation projects	8.4	—	8.4
Railways	7.0	2.0	9.0
Aleppo water supply	—	20.0	20.0
Electricity corporations	—	10.0	10.0
Port of Latakia	1.6	—	1.6
Fuel storage	.7	—	.7
Ghab Project Administration	1.0	—	1.0
Mira (Wheat Office), capital	—	50.0	50.0
Cereals Office, purchase of insecticides	—	6.0	6.0
Agricultural Bank	9.9	19.4	29.3
Municipalities	4.0	19.2	23.2
Supply deficit	5.2	—	5.2
Loans to guaranteed companies	—	16.9	16.9
Total	72.4	143.5	215.9

SOURCE: Council on Money and Credit.

In the period 1949-52, defense expenditures outside the ordinary budget totalled £S 89 million. Special receipts for national defense not included in the ordinary budget amounted to £S 18 million. A breakdown of these items year by year is not available.

Expenditures and receipts in the ordinary budget, extrabudgetary advances and repayments, and extraordinary defense expenditures and receipts are summarized in Table 5. This Table covers only the advances received by the autonomous and semi-autonomous agencies from the Treasury and the Issue Department and does not include funds derived by these agencies from their own operations or expenditures financed from such operating receipts. The figures on repayments of extrabudgetary advances are crude estimates of amounts paid to the BSL by autonomous and semi-autonomous agencies to retire government-guaranteed advances. Neither the original advances nor the repayments involved Treasury cash transactions, but they did involve changes in contingent liabilities of the Treasury and for this reason are here included in extrabudgetary expenditures and receipts of the central government.

TABLE 5 Budgetary and Extrabudgetary Expenditures and Receipts of Central Government, 1945-53

(Million £S)

Item	1945–48	1949–52	1953[a]	1945–53
Ordinary budget expenditures	471.2	641.3	197.0	1,309.5
Extrabudgetary outlays	78.2	117.0	20.7	215.9
Extraordinary defense expenditures	—	89.0	—	89.0
Total expenditures	549.4	847.3	217.7	1,614.4
Ordinary budget receipts	471.3	616.1	216.7	1,304.1
Extraordinary defense receipts	—	18.0	—	18.0
Repayments of extrabudgetary advances[b]	—	15.2	5.7	20.9
Total receipts	471.3	649.3	222.4	1,343.0
Apparent excess of expenditures	78.1	198.0	−4.7	271.4

[a] Preliminary.

[b] Crude estimates based on year-end figures for major classes of indirect debt of government to Banque de Syrie et du Liban.

SOURCE: Derived from Tables 1 and 3 and data provided by Ministry of Finance and Council on Money and Credit.

The figures, moreover, are unsatisfactory in that it is uncertain to what extent they represent actual expenditures as distinguished from amounts

652 authorized for expenditure. In general, it appears that recorded "actual expenditures" of the ordinary budget represent sums in fact disbursed, but it is known that in a few instances ordinary budget appropriations which were carried forward to later years were reported as actual expenditures of the year in which the projects were authorized. There are also indications that expenditures by autonomous and semi-autonomous agencies have sometimes lagged behind the receipt of advances from the Treasury and the Issue Department. It would be desirable for purposes of economic analysis and administrative control to have figures that distinguish precisely between plans for the future (authorizations or appropriations) and past accomplishments (actual disbursements).

The figures in Table 5 indicate a substantial excess of government outlays over current receipts in the period 1945-53. Although these figures cannot be considered a precise measure of the deficit, they do show that the government had to borrow and perhaps also to draw down its cash balances in order to finance its expenditures.

Government Debt

The government did borrow substantial amounts beginning in 1948. Inasmuch as the entire internal debt is owed to the BSL, the volume of net borrowing can be ascertained from figures on government indebtedness to that bank (Table 6). The credits were all originally extended by the Issue Department, but the bank has shifted some of the government obligations to its Commercial Department. Approximately one-half of the direct debt, it should be noted, represents obligations incurred by the government without corresponding cash payments to the public or entries in government expenditure accounts.[3] The "indirect debt" is composed of government guarantees of advances made by the Issue Department to autonomous or semi-autonomous public agencies and to certain privately owned industrial companies.[4] The external debt consists of a non-interest-bearing loan of U. S. $6 million from Saudi Arabia.

[3] This category includes: £S 65.8 million to reimburse the bank for losses due to depreciation of French franc assets included in the currency cover; £S 17.2 million of ordinary debt incurred to cover payments to the former mandatory power for buildings and other facilities; and £S 4.1 million for the Syrian subscription to the International Monetary Fund and the International Bank for Reconstruction and Development.

[4] The mission's recommendations regarding the government debt will be found in the Main Report and on p. 287 et seq.

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TABLE 6 Government Indebtedness to Banque de Syrie et du Liban, 1948–53

(*Million £S*)

Item	1948	1949	1950	1951	1952	1953
Direct debt	*104.2*	*109.0*	*131.5*	*151.0*	*164.1*	*166.8*
Difference on French franc currency cover[a]	103.0	65.8	65.8	65.8	65.8	65.8
Ordinary debt	—	40.0	57.3	76.8	91.2	92.0
Subscription in IMF and IBRD	—	—	1.5	1.5	2.1	4.1
Advances without interest	1.2	3.2	6.9	6.9	4.9	4.9
Indirect debt	*54.1*	*67.1*	*66.6*	*90.7*	*122.6*	*145.6*
Public administrations and institutions[b]	4.1	5.5	9.9	38.6	51.6	59.4
Cereals Office and MIRA	50.0	49.0	42.1	35.7	46.3	46.8
Guaranteed industrial companies	—	12.6	14.6	16.4	16.2	13.4
Exchange Office	—	—	—	—	8.5	26.0
Total	*158.3*	*176.1*	*198.1*	*241.7*	*286.7*	*312.4*

[a] Obligations issued by the government to reimburse the bank for depreciation of French franc assets held as legal cover for currency.

[b] Includes municipalities, Aleppo water supply, Agricultural Bank, electricity corporations and railways.

NOTE: Figures apply to end of calendar years.
SOURCE: Council on Money and Credit and Ministry of Finance.

Problem of Reconciliation

In order to verify the consistency and completeness of the figures and to lay the basis for further economic analysis, it would be desirable to construct a consolidated statement of government expenditures and sources of finance. To this end a year-to-year comparison would be made between (1) total budgetary and extrabudgetary expenditures and (2) total current receipts plus net proceeds of borrowing. Any difference between these two totals should be reflected in an equal change in the government's cash balances. Unfortunately, such a reconciliation is not possible in the case of the Syrian data. The most recent available figures indicate, for example, that, over the period 1949-52, outlays financed by the Treasury[5] exceeded current receipts plus borrowing by £S 13.4 million. Yet in this same period reported cash balances of the Treasury increased by £S 36.6 million. This leaves a discrepancy of £S 50 million. This discrepancy was explained to the mission as being due to the fact that current receipts and expenditures of the Treasury may be recorded on budget accounts for preceding years, that certain receipts are only provisionally deposited with the Treasury (these being collected by the government for the account of municipalities, special agencies or separate funds to which they are to be later transferred), that certain expenditures are actually advances which will subsequently be repaid or compensated, etc. The difficulty of precisely reconciling the figures indicates, nevertheless, that there is a need for better accounting.

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[5] Excluding government-guaranteed advances from the Issue Department of the BSL.

Municipal Finance

Apart from the central government the 175 municipalities are the only units which have taxing and spending power in their own right, the *mohafazats* (provinces) being agencies of the central government without financial independence. In the Main Report* we have recommended that the government undertake a survey of municipal finances with a view to supplementing the scanty information currently available.

Information Assembled for the Mission

Unsatisfactory as these data on government finance may be, it is significant that the material summarized in the preceding pages is much more complete and reliable than that which has heretofore been available to responsible Syrian officials and the public. Much information was specially compiled for the mission. For example, published information on ordinary receipts and expenditures of the central government for 1946 and later years had been confined to budget estimates without any indication of the extent to which actual results differed from the budget. In the municipal finance field, the Ministry of the Interior made special tabulations of budget figures for the mission. Although municipal budgets must be approved by the Ministry and copies of all municipal budget documents are filed with it, it has never prepared any analyses of these budgets. Indeed, some idea of the lack of regard for statistical data may be inferred from the fact that prior to the mission's request the simple total of budgeted expenditures of the municipalities had been ascertained for only one year. In the circumstances it is clearly not possible to draw more than very general conclusions from the figures quoted in this report.

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* See p. 192.

II BUDGETING AND ACCOUNTING

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In common with many other underdeveloped countries, Syria's most urgently needed fiscal reform is improvement of budgeting and government accounting. There is no unified and comprehensive budget or financial plan. Complete and accurate information on receipts, expenditures and cash balances is not available. In many instances cumbersome procedures and excessive centralization appear to cause unnecessary delays and inefficiency.

Types of Budgets and Financial Relations

There are, in principle, three types of budget: (a) the ordinary government budget; (b) the annexed budgets; and (c) the budgets of the independent entities. In addition, an important group of operations consists of extrabudgetary advances from available funds of the Treasury and of advances by the Issue Department of the BSL with government guarantee. Still another arrangement was the extraordinary defense budget of 1949, which provided for certain receipts and expenditures in 1949 and later years.

These financial operations are not brought together in a comprehensive budget or set of accounts. The complexity of financial relations and lack of unified accounts are partial explanations of the incomplete knowledge of government finances to which reference was made in the previous section.

The ordinary budget includes the regular receipts and expenditures of the central government departments. No distinction is made between current and capital items. As submitted, this budget is always nominally in exact balance. Receipts, however, may include expected withdrawals from the reserve fund and expenditures may include expected additions to that fund. On at least one occasion in recent years anticipated proceeds of new borrowing from the Issue Department were included in budget receipts. In view of these practices the nominal balance of the ordinary budget is misleading.

The annexed budgets include those of the Syrian University; Arab Academy; Department of Antiquities; Syrian Broadcasting System; Posts, Telegraphs and Telephones; Tobacco Monopoly; and Customs Bureau.

652 451 The general budget is supposed to include appropriations for these agencies or the amount contributed by them to the Treasury after deduction of their operating expenses. This practice, however, does not seem to have been rigidly followed. The PTT, for example, has secured large extrabudgetary advances from the Treasury and has apparently used its operating surplus to repay part of these advances. Neither the advances nor the repayments entered the regular budget. Customs receipts, less administrative expenses, are recorded in the regular budget, but the Customs Bureau does not turn over the money to the Treasury until requested to do so. At the end of 1953, reported bank balances of the bureau amounted to well over one year's collections. The semi-autonomous position of the customs administration, which exempts its operations from usual budgetary and civil service rules, is unusual. It apparently is a carryover from the period of customs union with Lebanon.

The financially independent agencies or entities include the Ghab project; Latakia port; Agricultural Bank; Cereals Office; Council on Money and Credit; Exchange Office; electricity corporations; Aleppo water supply; Northern Railway; Hedjaz Railway; and the municipalities. These entities retain any surplus they may realize and they charge any deficit against their capital accounts. Some of the independent agencies have received large sums in the form of advances from the Treasury or government-guaranteed advances from the Issue Department of the BSL. Neither type of advance is entered in the general budget. Government-guaranteed loans to and repayments from private industrial companies also occur without any entry being made in the general budget accounts.

Budget and Accounting Agencies and Procedures

The principal budget and accounting agencies are the Department of Budget and Financial Control, the Department of Financial Affairs, the Treasury Department—all three located in the Ministry of Finance—and the independent General Accounting (Comptroller's) Office.

The Department of Budget and Financial Control is responsible for the preparation and, to some extent, execution of the ordinary budget. Requests for appropriations for the financial year beginning January 1 are supposed to be submitted to the Budget Department by the ministries about September 1 of the preceding year. The budget is expected to be presented to Parliament during December and adopted by it before the end of that month. In recent years, however, the budget process has often fallen 652 behind this schedule. The Budget Department has an accountant in each 451 agency who is supposed to preaudit expenditures. The financial control section is responsible for examination of proposed legislation with financial implications and for supervision of government personnel practices.

The Department of Financial Affairs is responsible for supervision of loans not itemized in the budget, including Treasury advances to government entities or government-guaranteed loans to industrial companies.

The Treasury Department handles actual receipts and disbursements. Expenditures and receipts which occur within three months after the end of the financial year to which they are attributable are recorded in the accounts of that year, the books being held open for that purpose.

The General Accounting Office has broad authority with respect to preaudit and postaudit of expenditures and personnel actions. The Office must approve in advance all contracts or purchases in excess of £S 5,000 and all contracts for rental of buildings extending beyond the current year. The examination concerns the legality of the action rather than its advisability. The Office must also give advance approval to hiring of government personnel to assure that there is budgetary provision for the position and that the candidate meets the legal requirements. It also approves increases in salaries and pensions. It is responsible for monthly and annual postaudits of accounts and for the closing of the budget. The annual budget is formally closed by an act of Parliament.

The General Accounting Office asserts that its preaudit functions have been kept up-to-date and that its procedures do not cause delay in making expenditures in conformity with the budget. A long delay is involved, however, in postaudit and final closing of the budget. The 1947 budget is the most recent one which has been formally closed. Accounts for 1948, 1949 and 1950-51 have been examined by the General Accounting Office but have not been passed on by Parliament. The mission was informed that the backlog of postaudit work was being reduced but that the General Accounting Office did not expect to be current in its postauditing until 1955.

The reserve fund is merely a bookkeeping device. The same budget may provide for additions to the reserve fund (recorded as budget expenditures) and for withdrawals from the fund (recorded as budget receipts). Although an increase in the reserve fund usually indicates a surplus in the ordinary budget, one substantial addition in recent years merely reflected a paper profit from the exchange advantage realized in liquidation of a debt to Lebanon for blocked Syrian currency formerly circulating in Lebanon. The fund therefore does not consist entirely of an accumulation of past surpluses. Even if this were true, drawing on the fund to cover a current deficit or an extrabudgetary expenditure would not represent a non-inflationary means of financing. An accounting system which relies on the reserve fund as a balancing item deprives the Parliament and the public of an easily understandable measure of current operations—the budget deficit or surplus—and may be somewhat misleading.

Criticisms

The most serious defect of these arrangements is the lack of a comprehensive budget covering all government receipts and expenditures. The ordinary budget gives an incomplete and misleading impression of the fiscal position of the government because it does not cover certain extraordinary defense expenditures and receipts and transfers of funds between the Treasury and independent agencies. Although it is appropriate for the independent agencies, especially those which are expected to be largely self-supporting, to have independent budgets, sound financial planning requires that the general budget clearly reflect the Treasury's relations with these agencies. The practice of authorizing advances from the available funds of the Treasury and from the Issue Department with Treasury guarantee for a diversity of projects which are not subject to unified review is unwise. Moreover, clear records of the status of outstanding authorizations for advances are lacking.

Provisions for preaudit of expenditures by the Budget Department and the Genera[illegible]nting Office, together with the involved rules which individual age[illegible] are expected to apply, result in a cumbersome procedure which places great stress on legal niceties but little emphasis on wise and economical use of resources.

Delay in accounting, postauditing and closing the budget means that no clear information on recent trends in receipts and expenditures is available to guide finance officials and the Parliament in preparing and approving the budget for a new year. Part of the difficulty arises out of the practice of attributing certain transactions occurring in the period January-March to the previous year. For purpose of control it is of course essential to match each disbursement with a valid authorization to spend, and it

must be expected that a large proportion of payments made during the 652
first months of any year will be under authority granted in the previous 451
year. On the other hand, the essential requirements for purposes of treasury management and economic analysis are data on current cash payments, receipts, and balances of the government; from this point of view an exact allocation of all transactions to particular budget years is of secondary importance. In drawing up a new budget, furthermore, information on the recent past is needed in order to check on the rate at which authorized expenditures are going forward. Figures on total cash receipts and expenditures for the government as a whole and for each ministry can be prepared within a few days after the end of any calendar period. Such figures would be a highly useful supplement to information now available.

Partly as a result of lack of current information on resources and claims on them, the Treasury and other government agencies appear to have built up grossly excessive cash balances. Complete records on these balances are not available from government accounts but banking statistics on public deposits reveal the large size of the balances. As of December 31, 1953, public deposits denominated in local currency were as follows:[7]

	(Million £S)
Treasury	62.0
Customs service	55.6
Public administrations	21.9
Public services	49.2
Miscellaneous	.2
Total	188.9

Treasury deposits plus deposits of the customs service, which are at the disposal of the Treasury even prior to being transferred to it, were equal to more than half a year's ordinary budget expenditures. Public deposits as a whole have increased sharply since the end of 1951. They were built up at a time when the government was borrowing, directly and indirectly, large amounts from the Issue Department of the BSL. It is not possible fully to evaluate the adequacy of the balances because of lack of information. Treasury deposits, for example, include an unknown amount of third-party funds which do not legally belong to the government. This situation, of course, complicates financial planning. The possibility of an

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[7] From data compiled by the Exchange Office. In addition, there were £S 5.3 million of foreign-currency deposits.

652 457 inflationary situation developing out of an attempt of various government agencies to draw down their deposits at a rapid rate should not be overlooked.

Suggested Reforms

Some of the main lines of reform of the budget and accounting system are implied in the foregoing observations, but for the sake of clarity they will be repeated. No attempt will be made to outline a detailed program; for this, it is suggested that the government obtain the services of a qualified foreign advisor. The mission recommends the following:

1. A comprehensive budget including all receipts and disbursements of the Treasury should be instituted. Items now financed through extraordinary accounts or by drawing on the available funds of the Treasury should be included in the general budget. Annexed budgets may be continued for agencies such as Posts, Telegraphs and Telephones, the broadcasting system, and the University, but all subventions and loans to these agencies and all contributions or repayments from them should be reflected in the general budget. Loans or capital subscriptions to the port, railway and electricity companies and other independent enterprises, as well as any recoveries of funds from these enterprises, should also be entered in the general budget.

2. The general budget may appropriately be divided into three sections. On the expenditure side these would be: (a) current expenditures; (b) capital outlays; (c) loans and capital subscriptions. On the receipts side the three sections would be: (a) current revenues; (b) proceeds of sales of state property; (c) recoveries of loans and capital subscriptions. Such a classification would be helpful for purposes of economic and financial planning but it should not be assumed that expenditure items of types (b) and (c) should always be financed by borrowing, or type (a) items always by current revenues.

3. Although the independent public administrations and services should remain outside the general budget and should not be required to comply with the detailed budget procedures applicable to regular departments and agencies, each independent agency should be required to submit annually a statement of proposed capital outlays. The proposals should be subject to review by a competent body to assure their consistency with the general economic program of the government in the light of current conditions.

Capital outlays of municipalities might be subjected to the same kind of examination.

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4. Projects extending over several years should be authorized in advance by law but funds for the whole project should not be transferred to a separate account or otherwise set aside when the project is authorized. Instead, appropriations should be made annually to cover expected disbursements of that year and funds should be released by the Treasury only as needed to make payments to employees and contractors. Appropriations remaining unobligated at the end of any year should lapse. This system would permit the government to exercise continuous control over spending. The Treasury would borrow, under a general authorization, only when necessary to make payments, and an increase in the public debt would be avoided while cash balances were available.

5. The so-called reserve seems to serve no useful purpose and it does complicate and confuse budgeting. It should be eliminated.

6. Two types of accounting records should be maintained. First, for purposes of control, a continuous record should be kept to show at all times the unobligated balance of each outstanding appropriation and the cumulative disbursements made under authority of the appropriation. These accounts would serve as the basis for auditing and closing each budget. Second, accounts showing cash receipts, payments and balances should be maintained. Prompt reports should be prepared from these accounts at monthly intervals; these would supply essential information for improving treasury management and budgeting.

7. Each budget should include (a) estimates of receipts and expenditures for the year under consideration; (b) revised estimates for the year in progress; and (c) actual figures for the preceding year. The budget should also present information on the amount of new spending authority requested, on cash balances, the public debt and other relevant items. It should clearly indicate the proposed means of financing any deficit or the disposition of any surplus.

8. Preaudit of expenditures by the General Accounting Office should be discontinued and this function assumed by the various operating agencies under the general supervision of the Ministry of Finance. Preaudit is an administrative control essential to internal management. Postaudit is concerned solely with verification of the legality of past transactions; it enables the legislature to make sure that the executive agencies have not exceeded their authority. The combination in one agency of preaudit and

652 451 postaudit functions is likely to lead to overcentralization, cumbersome procedures and operating delays.

9. The delay in postaudit should be reduced as fast as possible, by improving both accounting and auditing procedures, as well as by relieving the General Accounting Office of the preaudit function. Fraud and other crimes revealed by postaudit should be dealt with as provided by law but officials should no longer be held financially liable for procedural irregularities not involving fraud; in such cases attention should be directed to revising applicable procedures with the object of preventing a recurrence of the irregularities.

10. Cash balances of the Treasury and other agencies should be analyzed with a view to segregating public funds from third-party accounts. Excessive cash balances should be applied to reduction of the public debt.

651 III REVENUE SYSTEM

The most serious problems in the field of taxation arise from inefficient and inadequate administration and widespread evasion. The system is regressive and unequal in incidence. Although revenue has increased greatly in recent years—apparently more rapidly than national income—it will not be easy to assure a continuation of this trend. The system does not have a large degree of automatic flexibility of yield which would permit the government to capture a significant part of any increases in national income without changing tax rates.

Revenue Yield in Relation to Income and Population

The proportion of the national income collected in taxes and other government receipts appears to compare favorably with that in many other countries. In 1950 the ordinary budget receipts of the central government plus estimated receipts of all municipalities equalled 12% of estimated national income.[8] By 1953 central and municipal receipts appear to have

[8] In 1950 ordinary receipts of the central government were approximately £S 139 million (annualized estimate from 18-month fiscal period 1950-51). The total of municipal expenditure budgets in 1950 was £S 25.8 million, but the municipalities received Treasury-guaranteed advances of £S 4.8 million from the Issue Department of the BSL. This suggests that municipal budgets provided for approximately £S 21 million of financing from sources other than borrowing. It is not known whether municipalities added to or drew down reserve funds in 1950. The mission estimates the national income of Syria in 1950 at £S 1,380 million.

increased by almost 60% and to have reached approximately 16% of national income.[9] This ratio is higher than in many other Asian countries, such as India, where the ratio is only about 7%, and compares favorably with that in several of the larger Latin American countries which collect around one-sixth of national income in taxes. On the other hand, the ratio of taxes to national income is substantially higher in most of the industrialized countries of the west.

After a period of approximate stability from 1945 through 1948, central government revenues have since increased fairly rapidly.[10] In 1953 ordinary receipts were 84% greater than in 1945 (£S 217 million as compared with £S 118 million). During this period the population probably increased no more than 20%.[11] Thus ordinary central receipts increased from roughly £S 40 per head in 1945-46 to more than £S 60 in 1953. Even though 1953 receipts probably included some non-recurrent items, this is an impressive record.

Although the foregoing figures represent revenues in current prices, there is no evidence that, if the statistics could be stated in constant prices, the apparent increase in revenues would be diminished. On the contrary, the scanty evidence available suggests that in the period 1945-53 the trend of prices in Syria was on the whole downward (see Table 7). It may be, therefore, that the increase in the real purchasing power of government revenue was greater than the rise in nominal receipts.

The increase in revenue attained in the past few years appears to be due in large part to revisions of tax rates. It is by no means clear that under existing law, the marginal tax rate applicable to an increment of national income is higher than the average rate. If the additional income accrued in agriculture, the only taxes on the production side would be the 7% agricultural production tax and, on exported raw cotton, an additional tax amounting to roughly 8% of the value (at 1953-54 prices). Moreover, the application of the income tax on non-agricultural incomes is so limited

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[9] Ordinary receipts of the central government were £S 216.7 million (preliminary). Total expenditure budgets of municipalities were £S 37.6 million, and Treasury-guaranteed advances to municipalities amounted to only £S 0.5 million. Estimated national income was £S 1,600 million in 1953.

[10] See Table 1, page 255, but note that preliminary figures place actual revenue for 1953 considerably above the budget estimate shown in this Table.

[11] The increase in estimated population from the end of 1946 to the end of 1952 was 14.3% (*Statistical Abstract*, 1951-52, p. 17; *General Monthly Bulletin of Statistics*, Nov.-Dec. 1953, p. 2).

651 and erratic that it seems unlikely that it would claim a large fraction of an increase from this source either. Additional taxes would of course apply on the consumption side, but some of the principal excise taxes are applicable to such commodities as tobacco, for which the demand may not be highly responsive to income changes. As for imported consumption goods, many are subject to customs duties of 15% ad valorem or less.

435 TABLE 7 Price Indices for Damascus and Beirut, 1945-53

(1952 = 100)

Year	Prices in Damascus		Prices in Beirut	
	Retail[a]	Wholesale, local manufactures[b]	Cost of living	"Wholesale"[c]
1945	140	—	131	136
1946	129	—	119	133
1947	118	—	109	120
1948	112	—	106	118
1949	95	97	100	95
1950	81	90	93	88
1951	94	107	100	110
1952	100	100	100	100
1953 (Jan.-Sept.)	93	85	95	92

[a] 19 foods, soap, kerosene and cigarettes.

[b] 16 locally manufactured commodities.

[c] Prior to 1950 foodstuffs represented about 90% of the total weight, of which wheat and barley alone accounted for 61%. Beginning in 1950, foodstuffs represent 49% of total weight.

SOURCE: Derived from data in *Statistical Abstract of Syria*, 1951-52, pp. 148, 152; *General Monthly Bulletin of Statistics* (Syria), Nov.-Dec. 1953, p. 33; International Monetary Fund, *International Financial Statistics*, February 1954.

651 Commodities for which it seems plausible to assume that import demand is fairly sensitive to income changes, and which are subject to duties of 15.3% ad valorem or less, include jewelry, watches and clocks, meat, milk, butter, cheese, oleomargarine, photographic films and papers and musical instruments. To be sure, certain other commodities are subject to higher rates, but it seems unlikely that taxes on these items would yield enough to add an important degree of flexibility.

The lack of automatic flexibility of revenue yield is a disadvantage to a country undertaking a program of economic development. Such a program nearly always requires the government to gain command over an increasing fraction of national income, to finance investment and expand current services. In the absence of automatic flexibility, frequent revisions of statutory rates and perhaps the application of new taxes are necessary if the government is to finance its expenditures in a non-inflationary way.

The Present Revenue System

The principal sources of central government revenue, in order of yield, are customs duties and excise taxes, which together account for about one-half of total revenue, the agricultural production tax, registration fees and income from public services (Table 8). Income and property taxes are

TABLE 8 - Percentage Composition of Ordinary Budget Receipts of Central Government, Selected Years

Source	1945	1948	1951–52[a]	1954[b]
Schedular income taxes	6.7	4.3	5.3	6.6
Tax on non-agricultural real estate	1.8	2.0	2.6	2.7
Business and professional license tax (temettu)	1.1	1.4	1.3	1.5
Miscellaneous direct taxes[c]	1.8	0.9	1.1	1.5
Agricultural production tax	7.8	10.7	12.8	10.9
Livestock tax	7.1	5.5	5.5	4.5
Excise taxes[d]	35.0	29.3	22.0	29.6
Customs duties	7.7	30.0	23.6	18.7[e]
Registration fees	1.3	7.7	10.6	10.4
Proceeds of state property	1.6	1.3	3.0	2.9
Industries	3.2	0.3	0.2	0.4
Income from public services	24.1[f]	5.1	10.4	10.0
All other	0.9	1.5	1.5	0.4
Total[g]	100.0	100.0	100.0	100.0

[a] July 1, 1951–December 31, 1952.
[b] Budget estimates.
[c] Includes payment for guard services.
[d] Includes revenues from tobacco monopoly.
[e] Includes export duties, 7.4% of total revenue.
[f] Includes certain non-recurring items associated with wartime food program.
[g] Figures for the various items have been rounded.

NOTE: Figures are exclusive of withdrawals from reserve fund and loans from Issue Department.
SOURCE: Derived from data provided by Department of Budget and Financial Control, Ministry of Finance.

651 comparatively minor in importance at present, accounting for less than 10% of revenue. Over the past decade customs duties and registration fees have shown the greatest relative increase in yield, owing to increased rates and greater economic activity. For a more detailed statement of receipts, see Appendix B, p. 291.

Income Taxes

Schedular income taxes at varying rates are imposed on (a) income from industrial, commercial and non-commercial trades and professions; (b) salaries and wages; and (c) income from circulating capital. There is no global tax to supplement the schedular taxes. Agricultural income is not subject to net income tax. The tax on non-agricultural real estate is in the form of an income tax, but in actual application it appears to have many of the characteristics ordinarily associated with a property tax. The tax on income from industrial, commercial and non-commercial trades and professions applies to net income from virtually all businesses and professions except agriculture. The first £S 1,500 of income is exempt. Rates range from 6% on income between £S 1,500 and £S 10,000 to a maximum of 36% on income in excess of £S 750,000. Personal exemptions are £S 480 for one wife and £S 480 for the first child. For each additional child after the first the basic exemption increases by £S 20; it is £S 500 for the second child, £S 520 for the third, and so on. The tax is based on net income after deductions for business expenses, depreciation and other Syrian taxes. Net losses may be carried forward five years.

Partnerships, joint stock companies and corporations (*sociétés en nom collectif, sociétés à responsabilité limitée,* and *sociétés par actions*) are taxed at the same rates as individuals, but, in the case of partnerships, personal exemptions are allowed for the partners, subject to a maximum limit for each firm. Corporations with registered shares (*sociétés par actions dont les actions sont nominales*) and whose main office is in Syria are granted a 25% reduction in the tax computed at the regular rates, but it is understood that only two corporations now qualify for this special treatment.

Taxation of industrial enterprises is discussed in Annex F.

In lieu of the regular income tax, business enterprises with gross receipts below £S 25,000 and professional men whose gross compensation for services is less than £S 15,000 pay an annual amount equal to 50%

of the license tax (temettu).[12] Because of the complexity and variability of the temettu, it is difficult to compare this arrangement with the regular income tax. In a large number of other cases the income tax is assessed on the basis of more or less arbitrary evidence of presumed income. Taxpayers are required by law to file returns but the degree of compliance is low. No official return form is furnished or prescribed by the government. In one of the principal mohafazats, the mission was informed that only about 30% of the cases were assessed on the basis of returns or accounting records.

Salaries and wages in excess of £S 100 per month are subject to tax at rates ranging from 4% on amounts between £S 100 and £S 1,000 per month to 12% on amounts over £S 4,000. No allowance is made for the first two children, but for the third child an exemption of £S 40 per month is granted. The exemption increases by £S 10 for each successive child. The tax is withheld by the employer.

Income from stocks, bonds, notes and other items of circulating capital is subject to a flat rate of 6%. No personal exemption is allowed. The tax does not apply to interest received by banks if subject to the schedular tax on business profits.

Tax on non-agricultural real estate. The annual value (actual or estimated rental value) of buildings and associated sites is subject to tax at rates ranging from 7% on the first £S 2,000 per year to 20% on amounts in excess of £S 20,000. These rates are applied separately to each parcel, that is, the total income of the owner from all real property is not aggregated to determine the applicable rate. A shift to a personal basis of assessment is contemplated, however, after completion of a general reassessment of real estate. Unoccupied non-agricultural land is subject to tax on capital value at rates ranging from 0.5% on the first £S 20,000 to 1% on amounts in excess of £S 100,000. Agricultural land and buildings are exempt.

General reassessments are made only once each 10 years except that it is provided that a property whose value increases or decreases by more than 25% in the interim shall thereupon be reassessed. In practice, it appears that this is not usually done. A general reassessment of property was under way at the time of the mission's visit and was expected to be completed in 1954 or 1955.

New factories, administrative buildings, and residences for employees and workers are exempt for the first six years. Temporary exemptions are also allowed for new construction to encourage tourism, urbanism, settlement of nomadic tribes and other purposes.

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[12] This surcharge is reported in government accounts as part of income tax collections.

Business and professional license tax. A license tax is imposed on industry, commerce and the professions. The rather involved calculation of the tax takes into account such factors as the rental value of the place of business, number of employees and gross receipts, and also includes a fixed element for different trades and professions. In general the tax is heavier in large cities than in small towns. Large tourist hotels and factories established after September 1952 are exempt for the first five years.

Miscellaneous direct taxes and fees. The other principal direct taxes and fees are the fee for guard services (night watchmen), irrigation tax, cadastral registration fee and inheritance tax. Most important of these from the revenue standpoint is the fee for guard service, which takes the form of a surcharge to the tax on non-agricultural real estate. The inheritance tax is rather elaborate in form, being graduated according to the degree of consanguinity and the size of the transfer. It yielded only £S 370,000 in 1953; the budget estimate for 1954 is £S 100,000. The irrigation tax was extensively revised in January 1954 and may in future yield more than the comparatively small sums obtained from other sources in the past (£S 473,000 in 1953).

Registration fees. In addition to fees for registration of real estate titles, judicial fees and stamps on legal documents, this category includes motor vehicle license fees, the army tax on electricity (a stamp tax on electricity bills) and consular and foreign trade fees.

Agricultural taxes. The agricultural production tax is a flat 7% of the wholesale value of marketed agricultural produce other than livestock, which is taxed separately. Commodities consumed at home or in the village are exempt; so are certain other comparatively minor items. Liability accrues when the commodities are moved outside the village, the tax usually being collected at posts along the roads on the basis of price lists prepared for each consumption center by local commissions. An annual head tax is imposed on livestock at the following rates:

Sheep and goats	£S 1.50
Camels	£S 2.20
Water buffaloes	£S 5.20
Hogs	£S 8.20

Sheep, goats and pigs less than one year old and camels less than two years old are exempt. Cows, oxen, horses, asses, mules and other animals not listed above are not taxed.

Excise taxes. 1. Tobacco and tombac:[18] The production and sale of these products are a state monopoly. In recent years profits of the monopoly have equaled approximately one-half of gross sales, which is equivalent to an excise tax of approximately 100% ad valorem.

2. Petroleum products: Taxes on the consumption of petroleum products are 14.5 piasters per liter on gasoline and 5.0 piasters per liter on fuel oil. In addition there are municipal consumption taxes and customs duties on petroleum products.

3. Refined sugar: This commodity is taxed at a rate of 23.5 piasters per kilo. Products containing sugar are taxed proportionately to their presumed sugar content.

4. Cement: Cement is subject to a tax of £S 15 per ton.

5. Miscellaneous: Specific taxes are levied on various types of alcoholic beverages and on certain minor goods and services.

Import duties. Import duties appear to be about equally divided by yield between ad valorem and specific taxes. A rough estimate for the period 1950-52 suggests that the weighted average of all import duties was equivalent to about 9-10% of the value of imports. Imports subject to ad valorem duties are valued at the official exchange rate (£S 2.19 = U. S. $1.00). In early 1954 this resulted in a valuation about 40% lower than that which would have been obtained by application of the free exchange rate (£S 3.575 = U. S. $1.00) at which payment for most imports except petroleum is made. Ad valorem rates tend to be fairly low even on luxury items. For example, effective rates on distilled spirits range between 18.4% and 36.8%. An effective rate of 24.5% applies to items such as many cosmetics, radios, phonographs and records, and coffee. Effective rates of 15.3% or less apply to items such as tea, most spices, oleomargarine, wines, photographic film and papers, jewelry, electric bulbs, watches and clocks and musical instruments.

Export duties. During the boom in raw materials' prices after the beginning of the Korean war, many countries imposed or increased export duties. Syria joined this movement rather belatedly, adopting export taxes on raw cotton in 1952 and on cereals in 1953. The tax on cotton is still in effect, but the taxes on cereal exports were repealed in mid-1954. The tax on cotton is 9 piasters per kilo on unginned cotton and 20 piasters per kilo on ginned cotton. This tax applies in addition to the 7% agricultural production tax. In August-September 1953, the export duty on ginned cotton amounted to about 8% of the wholesale price in Aleppo.

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[18] A preparation of tobacco and other materials smoked in a hookah (water pipe).

Other revenues. Proceeds of state property are composed mainly of receipts from rent or sale of real and personal property and income from salt mining. The most important items of income from "public services" are petroleum revenues, which arise out of agreements with the pipeline companies, profits of the Exchange Office and receipts in lieu of compulsory military service. Negotiations now under way are expected to result in an increase in petroleum revenues.

Municipal revenues. The municipalities, generally speaking, are allowed to levy taxes within maximum limits specified by central government legislation. Municipal taxes comprise surcharges to national taxes, collected by the central government on behalf of municipalities, and taxes administered entirely by the municipalities themselves. The principal surcharges include those on the schedular income taxes (10% of the national taxes), on the tax on non-agricultural real estate (maximum of 40%) and on the temettu (maximum of 30%). The central government also collects for the benefit of municipalities excises on petroleum consumption (1.5 piasters per liter of fuel oil and 3.5 piasters per liter of gasoline), and a 5% ad valorem tax on imported articles. The latter tax is reduced to 1% on items which are either exempt from import duties or subject to rates not in excess of 1%. Taxes collected by the municipalities themselves include levies on motor vehicles, retailers of alcoholic beverages, places of amusement, the sale and slaughter of animals and public utilities. Cities are also allowed to levy special assessments equal to one-half of the increase in value of property due to the construction of streets and other public works. No details are available regarding the amount of revenue obtained from various sources by the cities. Officials of Damascus and Aleppo, however, estimate that about one-third of the revenue of these cities comes from taxes administered by the central government and about two-thirds from taxes and fees collected by the cities.

General Appraisal

Although Syria's revenue system provides fairly adequately for present functions of government, it needs to be strengthened to meet the demands of an expanding economy. The mission believes that the time has come for a re-examination of the system as a whole.

The mission's survey has revealed no glaring cases in which it can be shown that the tax system is now seriously interfering with economic development. It is by no means certain, however, that this would continue to be true if rates of existing taxes were appreciably increased and administration tightened.

But, although the present tax system does not interpose major barriers to development, it is open to the criticism that it is not designed to exercise certain desirable influences on economic activity. For example, the absence of a tax on agricultural land makes it easier to hold large blocks of land for speculative purposes than it would be if the land were subject to an annual tax even if the land yielded no current income. In the cities, income from real estate is probably subject in most instances to a lower rate of taxation than income from trade and industry. This tax differential may to some extent reinforce the non-economic preference for investment in real estate rather than in more active enterprises characteristic of most underdeveloped countries. The complete absence of progressive taxes on agricultural income and wealth tends to favor the large landowner over other investors or entrepreneurs who may contribute more to economic development.

Another major consideration in evaluating the tax system is that it appears to be highly regressive in the sense that taxes take a much larger fraction of the incomes of the poor than of the wealthy. This is characteristic of many of the principal excises and import duties, which together account for over two-fifths of total revenue in the 1954 ordinary budget and which come to a large extent from articles of mass consumption. Taxes on agricultural production, livestock and exports, which contributed almost one-fourth of estimated total revenue in 1954, are more difficult to assign to income groups but it seems likely that these taxes are regressive or at best proportional to income for the majority of the agricultural population. To be sure, the fact that neither the production tax nor the export duties applies to articles consumed at home or in the village offers a significant degree of relief to the poorest farmers, provided they grow grain and other crops for local consumption rather than cotton or other commercial crops. This feature, however, is partly offset by the livestock tax, which, being specific in amount and generally applicable, imposes a heavier load on the owner of low-quality animals than on the owner of the better grades. In the non-agricultural sector, regressivity is to some extent mitigated by the direct taxes on income and non-agricultural real estate but, owing to low rates and ineffective administration, these taxes produce less than one-tenth of total ordinary revenues (1954 budget).

The regressive nature of the Syrian tax system must be considered objectionable in the light of ideals of justice and political principles that have been accepted in many parts of the world. Admittedly, however, there are wide differences of opinion as to the feasibility of dispensing with regressive taxes and concerning the degree to which it is appropriate to impose taxes designed to exact contributions increasing progressively with the taxpayer's income or wealth. An economic objection to steeply progressive taxes is that they are likely to fall with particular severity on savings, because middle and upper income groups account for the greater part of total savings. In a capital-poor country, where productive investment is limited by lack of savings, this consideration is especially important. On the other hand, low taxes on the wealthy allow luxurious consumption and hoarding of gold and foreign exchange, as well as saving for productive investment. Furthermore, regressive taxation is economically harmful if the system presses so heavily on the poor that their consumption is reduced to the point of impairing their health and working efficiency, or if it leaves no margin for a gradual raising of their standard of living. It should also be noted that taxes on non-essential consumption and on net income exhibit more automatic flexibility of yield than do taxes on essentials, and hence claim a larger proportion of national income as production grows, even though tax rates are not altered. The weight to be attached to the various considerations is a matter of judgment on which no general agreement can be expected. The mission is not inclined to urge adoption of rigid standards in this controversial area but it does believe that the regressiveness of the Syrian tax system could be sensibly lessened and even reversed by measures that would interfere little if at all with economic development.

As a final point of general appraisal, informed opinion holds that tax administration in Syria is in many respects ineffective and that tax evasion is widespread. Administration and compliance are especially weak in the case of the schedular income taxes and the inheritance tax. The majority of income tax assessments appears to be made in a rather arbitrary manner on the basis of fragmentary evidence with respect to volume of business, living standard of the taxpayer, opinions of others in the business or profession, and other presumed indications of net income. This is unsatisfactory from both the government's and the taxpayer's point of view. The inheritance tax in practice applies mainly to real estate. Even the application of other comparatively simple taxes is hindered by lack of trained personnel and modern procedures and equipment.

Suggested Reforms

Administration. The administrative side of the revenue service urgently requires revision. Many of the present defects could be eliminated by wider recruitment and by offering better compensation to revenue officers, while imposing a higher standard of technical competence and personal probity. The adoption of modern office methods, opening the way to prompt and decisive action to collect delinquent taxes, could also have far-reaching effects which would more than justify any small increases in personnel which may be required. Although the attitude of taxpayers cannot be changed overnight, improved administration, together with the strict and impartial punishment of fraud and evasion, can be expected in time to induce voluntary compliance. By these methods considerably more revenue could be collected under the existing tax schedules, with a commensurate increase in equity and without initiating inadvisable experiments with new taxes which the government might be unable to enforce effectively.

Income taxes. With the growth of industry and commerce and improved tax-collecting machinery, income taxes can assume a larger role in the Syrian tax system. Under present conditions, however, it would be unwise to count on a major increase in revenue from such taxes in the near future. The immediate problem is rather to rationalize the structure and improve the administrative procedures. Under the schedular income taxes there are now wide differences in tax liabilities on any given amount of income, depending on the source from which it comes (see Table 9), although the rationale of these differences is frequently obscure.

The mission recommends that Syria follow present world trends by substantially reducing, if not completely eliminating, differences in tax liability based on source of income. This would require—(a) adoption of similar rates and exemptions for the existing schedular taxes; (b) transformation of the tax on non-agricultural real estate into a true schedular tax on net income; and (c) adoption of a global complementary surtax on large incomes from all sources. It may be considered equitable to tax earned income less heavily than property income. If so, a special credit or reduced rate could be provided for earned income up to a reasonable maximum. A favorable schedule for salaries and wages alone would not be adequate for this purpose since the arguments commonly advanced in support of differentiation apply to income attributable to the personal efforts of business proprietors and professional men as well as to salaries and wages.

TABLE 9 Comparison of Income Tax Liabilities on Incomes of Selected Amounts from Different Sources[a]

(Tax liability according to source of income[b]) (£S)

Annual[c] net income	Business or profession[d]		Salary or wages[e]		Circulating capital	
	Amount	% of income	Amount	% of income	Amount	%
1,200 . . .	—	—	—	—	72	6
2,500 . . .	31	1	33	1	150	6
5,000 . . .	181	3	133	3	300	6
10,000 . . .	481	5	333	3	600	6
15,000 . . .	931	6	593	4	900	6
20,000 . . .	1,381	7	893	4	1,200	6
50,000 . . .	6,181	12	3,533	7	3,000	6
100,000 . . .	17,431	17	9,533	10	6,000	6
200,000 . . .	44,431	22	21,533	11	12,000	6
500,000 . . .	132,931	27	57,533	12	30,000	6

[a] Not including surcharges for municipalities and schools.

[b] For married man with wife and three dependent children.

[c] After allowing deductions for business expenses and other Syrian taxes.

[d] No account is taken of the provision fixing the income tax liability at one-half of the license tax (temettu) in the case of a business enterprise with gross receipts below £S 25,000 and of a professional man whose gross compensation for services is less than £S 15,000.

[e] Assumed to be received in equal monthly instalments.

Transformation of the tax on non-agricultural real estate would be accomplished by requiring all individual income from taxable real estate to be aggregated in order to determine the applicable tax bracket, having regard to customary personal exemptions. This should be administratively feasible; income from real estate is comparatively easy to detect in view of its association with tangible property and the possibility of using title records to verify ownership. A modest beginning has already been made in at least one revenue office in bringing together assessment data for different properties owned by the same person. The tax base should continue to include both receipts from rented property and the imputed rental value of owner-occupied property, but both components should be assessed more frequently than once in 10 years. Ideally, all income should be assessed annually, although this may not be feasible as regards imputed income from owner-occupied real estate. The tax on capital value of vacant urban land should be retained as a separate levy.[14]

It is stated in the Main Report that a global complementary tax applicable to income from all sources is urgently needed to round out the tax system. As long as separate graduated rate schedules apply to income from different sources, a person receiving income from two or more sources will pay less tax than one receiving the same total amount of income from a single source. Even if the rates and exemptions in the various schedules are identical, the person with income from two or more sources will enjoy the benefit of the low first-bracket rates on each type of income and will be subject to a lower top rate than the person who receives all of his income from one source. The global tax should be designed to adapt the income tax more closely to ability to pay and to introduce a greater element of progressivity. It should therefore apply to agricultural income as well as to income subject to schedular income taxes. Initially, this tax should apply only to a small minority of taxpayers. At this stage major reliance would still be placed on graduated schedular taxes, which are easier to administer and more familiar to Syrian taxpayers than a global complementary tax. As administrative efficiency and taxpayer cooperation improve, coverage of the global tax could be broadened. Ultimately, graduation of income tax rates could be accomplished mainly through the global complementary tax, and the schedular taxes would incorporate either a uniform flat rate or only a few brackets. This type of arrangement has been found to be most convenient in many countries.

Application of the same graduated rates to joint stock companies or corporations and to partnerships as well as to sole proprietorships, which is now the general rule in Syria, is questionable, because the system makes no allowance for the number of owners of the enterprise. An arrangement more logical than the present practice would be to collect a flat-rate tax on the income of companies and partnerships, to be treated as a withholding tax against the personal tax liabilities of resident shareholders and partners. This arrangement, however, does not appear to be administratively feasible at the present time.

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[14] The fee for night watchmen's services (a national revenue) and the surcharge for municipalities might continue to be based on the assessed income or capital value of each parcel of property without allowance for personal exemptions or the application of graduated rates. *In rem* taxes of this nature are levied in many parts of the world to help finance local governments and to pay special costs of property protection.

The authorities should prepare and distribute standard income tax forms and every effort should be made to increase the proportion of cases assessed on the basis of systematic records. Steps in this direction might include imposition of a financial penalty on taxpayers who fail to file proper returns[15] and adoption of a policy of setting high presumptive assessments.

Agricultural taxation. The agricultural production tax is by no means an ideal measure, but it is established and yields large amounts of revenue. The tax will probably have to continue for some time as the principal means of taxing agriculture. The desirability of instituting an annual tax on large holdings of agricultural land has already been stressed.

It would not be feasible to subject the mass of small farmers to a schedular income tax and it would be unfair to do so, even if feasible, as long as the agricultural production tax is maintained. But it would be appropriate to apply the global complementary tax to the relatively small number who receive large amounts of income from agriculture and from ownership of agricultural land. It might be desirable, however, in computing the global income tax to allow a deduction or a partial credit for the agricultural production tax. The difficulties of determining net agricultural income of large operators from agriculture, although admittedly great, are probably no greater than those of assessing income tax in many lines of business and the professions. Reliance would probably have to be placed at the outset mainly on indirect evidences of presumed income, such as area and quality of cultivated land, volume of marketed crops, ownership of irrigation pumps and agricultural machinery, and so on. The taxpayer should, however, always be encouraged to furnish adequate accounting records to contest a presumptive assessment.

The mission earlier commented that in view of the fact that the livestock head tax (about 5% of ordinary revenue) is so arbitrary and difficult to apply, it seems desirable to abolish it and to subject sales of livestock 651 and wool, hides and skins to the 7% agricultural production tax applied to marketed produce. Milk, butter and cheese might be exempt for social reasons.

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[15] An exception to this requirement might appropriately be made for wage earners subject to withholding tax.

Export taxes. The mission believes that at present prices cotton cultivation is still sufficiently profitable to warrant continuation of the existing export tax. We have, however, recommended that the tax should be revised to make its rate responsive to price changes. We are not prepared to formulate a precise schedule of rates, but we do recommend that the principle of the sliding scale be adopted and put into effect at once. Early action is desirable so that cotton growers may make their plans with the assurance that the export tax will be automatically adjusted if prices have fallen by the time the crop is marketed. This revision would introduce a desirable element of flexibility in the tax and would thereby minimize adverse effects on production. In selecting the schedule of rates it would be advisable to bear in mind the revenue needs of the state and to avoid going too far in the direction of flexibility, however desirable that characteristic may be from the point of view of production incentives.

Excises and import duties. Increased taxes on non-essential consumption items should be regarded as one of the principal sources of the additional revenue required to finance an expanded development program. In the absence of an efficient personal income tax, excises and import duties on non-essentials can also help to offset the regressive bias of the tax system.

It has already been stressed that valuations for purposes of ad valorem import duties should be based on the free exchange rate rather than the official rate. Under the present arrangement duties appear to be much higher than they actually are and it is by no means certain that the combination of high nominal rates of duty and artificially low valuations always results in a tax liability which reflects a considered policy. Where the change in valuation method produces a higher effective duty than is desired, nominal rates of duty could be adjusted.

Revenue from state domain. The mission believes that Syria should 651
obtain more revenue from state domain lands. According to figures sup- 427
plied by the Ministry of Agriculture, the government is obtaining £S 1.8 million annually from rental of 551,000 hectares of state land, or approximately £S 3.30 per hectare. We think that rentals should be increased to at least £S 5 per hectare. At current prices of wheat and barley this would equal about 10% of net yield (that is, gross yield less seed). The

651 increase would add approximately £S 1 million per year to revenues.
427 Existing contracts and administrative problems would doubtless cause
some delay in putting this recommendation into effect. Nevertheless, a
significant increase in receipts could be obtained over the next few years.

IV PUBLIC DEBT

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Present Situation

The Syrian public debt amounted to £S 312 million at the end of 1953.[16] There is no considered public debt policy. Borrowing is not closely correlated with the government's need for funds, and in the past large amounts have sometimes been borrowed when the Treasury had available to it cash balances far in excess of immediate needs. In addition, no provision is made for regular service or retirement of the debt. The entire internal debt is held at low rates of interest by the BSL and the government has not attempted to develop a market for its securities among private investors. Moreover, the government does not seem to be fully aware that Treasury-guaranteed loans from the Issue Department to government entities and industrial companies are as much a use of the government's credit as direct government borrowing from the Issue Department and that the economic significance of the two types of transaction is the same.

The practice of financing expenditures by borrowing from the Issue Department is always potentially inflationary, but it can be acceptable and helpful when used in moderation and adjusted to economic conditions. It is objectionable if the volume of such financing is not based on a careful appraisal of over-all monetary conditions as well as financial needs of the government. Syria has so far largely escaped the inflationary consequences of resort to the Issue Department mainly because a considerable part of the borrowing in recent years has been offset by increases in cash balances. But borrowing when large cash balances exist is not only unnecessary but dangerous, since there is always the possibility that the various government entities might try to use their balances at a greater rate than the economy could absorb without risking inflation or the depletion of foreign exchange reserves.

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[16] See page 261.

The conscious development of marketable public debt instruments 652 would help stimulate and mobilize private saving in Syria and at the same time establish a channel for future government loans which may be required to finance development projects. Possibilities along these lines will probably be limited for the next few years, but they are sufficiently promising to warrant the necessary effort. The fact that the purchasing power of the Syrian pound has been well maintained in the period since independence should lead to opportunities for borrowing not enjoyed by countries which have been experiencing chronic inflation. This advantage should be maintained and exploited.

Recommendations

The monetary effects of public debt operations are discussed elsewhere in the report.[17] We here summarize our recommendations for improvement of public debt management and for the initiation of a borrowing program designed to tap savings of the public. The main points are as follows:

1. The structure of the outstanding direct and guaranteed debt should be revised, and the debt should be divided into short-term and intermediate maturities, and permanent debt.
2. For the sake of improved budgeting and a clearer understanding of financial operations, direct loans from the Treasury should replace the present practice of government-guaranteed loans to municipalities, independent agencies and industrial companies.
3. Annual provision for payment of interest on the public debt should be made through an appropriation in the regular budget. Budget surpluses and Treasury balances in excess of current needs could be applied to reduction of the principal of the debt. The establishment of a rigid sinking fund is not recommended.
4. Treasury bills should be issued, and the government should require independent agencies to hold surplus funds in them.
5. The possibilities of establishing a wider market for short- and medium-term government securities should be investigated, particularly among banks operating in Syria. Attractive interest rates would have to be offered.

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[17] See Main Report, p. 179 et seq.

652 6. The general public should be encouraged to purchase government securities. Bonds could be issued in small denominations and with varying maturities. It is important that they bear interest at rates approaching yields on alternative uses of capital—say 6%-10%—though to minimize conflict with religious traditions regarding usury the bonds should probably be in discount form. Consideration might be given to a lottery feature as a means of increasing the attractiveness of the securities.

APPENDIX A Expenditures, Ordinary Budget of Central Government, 1945-54[a]

(Thousand £S)

Item	1945	1946	1947	1948	1949	1950-51[b]	1951-52[b]	1953	1954
Presidency	291	756	271	241	176	324	391	2,060	429
Council of Ministers									
Presidency of Council of Ministers	873	1,735	2,810	672	645	709	2,248	*	1,571
Office of Inspection	—	—	—	—	—	—	148	95	128
Disciplinary Council	—	—	—	—	—	73	74	45	56
Directorate of Propaganda & News	—	—	—	—	353	534	254	269	441
Division of "Fatwa" and Religious Instruction	225	223	288	336	338	532	997	410	444
Administrative Council	70	67	73	59	57	70	—	—	—
Legislative bodies									
Chamber of Deputies	1,586	1,479	1,312	1,703	961	2,182	824	499	1,500
Office of Accounts	96	93	120	135	165	261	346	322	400
Supreme Court	—	—	—	—	—	83	58	—	168
Ministry of Foreign Affairs	1,520	2,518	2,850	2,925	2,466	2,769	4,747	4,097	4,303
Ministry of National Defense	16,444	27,814	20,785	44,839	49,319	102,494	104,587	65,997	73,427
Ministry of Finance									
Ministry proper	3,822	5,013	5,768	5,582	5,466	8,632	10,811	7,765	7,824
Govt. Printing Press and Official Gazette	194	176	245	227	451	462	583	547	748
Public debt[d]	5,329	7,968	6,540	8,028	10,130	16,191	26,265	15,118	20,700
Ministry of the Interior									
Ministry proper	1,992	1,932	1,909	1,836	1,736	2,639	2,509	2,127	2,120
Gendarmerie	11,782	10,670	11,201	12,675	11,608	15,633	16,523	21,359	9,000
Police and public security	3,663	3,564	4,342	5,342	4,381	7,114	8,084	5,882	5,865
Directorate of Tribes	1,170	3,125	2,081	182	161	227	123	107	117
Ministry of Public Health	3,413	2,628	4,220	3,444	3,885	5,291	7,459	6,374	8,764
Ministry of Justice									
Ministry proper	2,739	3,078	3,559	3,753	3,754	5,624	6,205	4,489	4,435
Directorate of Real Estate Registration	1,283	1,303	1,483	1,673	1,535	2,235	2,525	2,737	2,749
Juvenile reformatories	—	—	—	—	—	—	—	—	238

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APPENDIX A (CONT.) Expenditures, Ordinary Budget of Central Government, 1945–54[a]

(*Thousand £S*)

Item	1945	1946	1947	1948	1949	1950–51[b]	1951–52[b]	1953	1954
Ministry of National Economy									
Ministry proper	13,111[e]	412	117	1,315	385	804	1,022	726	962
Directorate of Labor and Social Affairs	—	—	—	—	279	323	471	446	565
Ministry of Agriculture									
Ministry proper	2,848	3,561	4,096	3,384	3,086	5,440	5,025	4,208	4,523
Agriculture and veterinary schools	81	145	264	510	585	414	487	894	1,258
Ministry of Public Works									
Ministry proper	14,667	[illegible],718	31,100	16,889	16,429	16,860	16,786	14,500	17,243
PTT	1,507	6,783	—	—	—	—	—	—	—
Ministry of Education	10,401	11,790	17,797	20,536	22,749	36,224	46,872	35,903	37,097
Total	99,107	112,552	123,232	136,286	141,120	234,144	266,024	196,976	209,075

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[a] For 1945, 1946, and 1947, closed accounts; for 1948, 1949 and 1950–51, provisionally closed accounts; for 1951–52 and 1953 preliminary figures available at the General Accounts Section, Department of Budget and Financial Control; for 1954, budget estimates. Items are grouped as they are in the corrected budget of 1954.

[b] Calendar years except for two 18-month periods: January 1, 1950–June 30, 1951; and July 1, 1951–December 31, 1952.

[c] Merged with the Presidency.

[d] Includes pensions, indemnities, subsidies, etc., and in 1954 £S 7,500 thousand to cover exchange differential on petroleum imports at official exchange rate.

[e] Includes losses on distribution of bread at reduced prices as follows: 1945, £S 12,340 thousand.

NOTE: Figures are exclusive of additions to reserve fund.

SOURCE: Department of Budget and Control, Ministry of Finance.

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APPENDIX 8 Receipts, Ordinary Budget of Central Government, 1945–54[a]

(Thousand £S)

Item	1945	1946	1947	1948	1949	1950–51[b]	1951–52[b]	1953	1954
Schedular income taxes									
Industrial, commercial, and non-commercial trades and professions	6,374	4,090	3,081	2,948	4,374	6,883	10,172	11,000	9,750
Salaries and wages	1,353	1,339	1,540	1,951	2,264	3,115	4,064	3,235	3,400
Circulating capital	26	76	37	83	70	131	147	157	200
Tax on non-agricultural real estate	2,095	2,170	2,217	2,266	2,621	4,718	6,997	5,626	5,500
Business and professional license tax (tamattu)	1,298	1,384	1,434	1,589	1,830	2,921	3,513	2,087	2,975
Miscellaneous direct taxes	2,108	2,259	2,273	1,019	1,149	1,881	3,097	2,837	2,975
Agricultural production tax	9,256	12,988	9,131	12,435	12,901	20,410	34,795	22,336	22,000
Livestock tax	8,448	9,532	7,041	6,428	6,021	6,397	14,877	8,065	9,000
Excise taxes									
Consumption of petroleum products	6,039	7,823	10,256	8,270	11,018	16,509	20,600	14,883	15,000
Sugar	8,905	11,200	6,008	7,837	9,226	14,025	11,064	9,295	8,000
Tobacco monopoly	16,400	14,895	3,814	8,870	13,007	18,147	22,213	19,263	17,000
Other	9,948	13,439	13,437	9,095	4,838	8,214	6,009	19,047	19,730
Customs duties	9,053	25,548	35,834	34,846	41,517	49,634	64,141	42,234	37,832
Registration fees	1,544	2,133	8,841	8,941	9,261	16,756	28,835	24,134	21,000
Proceeds of state property	1,861	1,580	1,629	1,494	1,444	2,696	8,160	6,782	5,000
Industries	3,747	4,638	434	396	293	580	615	711	800
Revenues from public services									
Exchange office	—	—	705	250	100	9,830	8,310	[c]	4,150
Petroleum revenue	297	305	305	305	1,982	2,451	4,475	12,134	6,500
Other	28,211	4,136	5,362	5,325	10,592	21,825	15,590	10,312	9,501
All other	1,056	922	1,525	1,746	760	1,219	3,993	988	858
Total	118,287	120,732	116,189	116,084	136,087	208,314	271,487	216,451	202,000

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[a] For 1945, 1946 and 1947, closed accounts; for 1948 and 1949, provisionally closed accounts; for 1950–51 and 1951–52, and 1953, preliminary figures available at the General Accounts Section, Department of Budget and Financial Control; for 1954, budget estimates.

[b] Calendar years except for two 18-month periods: January 1, 1950–June 30, 1951; and July 1, 1951–December 31, 1952.

[c] Included with "Other revenues from public services."

NOTE: Figures exclusive of withdrawals from reserve fund and loans from Issue Department.

SOURCES: Department of Budget and Financial Control, Ministry of Finance, and Directorate of National Revenue, Ministry of Finance.

ANNEX C NOTES ON AGRICULTURE

1 POPULATION, REGIONS AND SOILS

Rural Population

162 Syria's agricultural population can be divided into groups differentiated
619 by their social order.

233 *Nomadic tribes.* Bedouin tribespeople form an important unit of the rural population, numbering an estimated 150,000 and living in various stages of settlement from pure pastoral nomadism to almost permanent agricultural communities. Among the larger tribes the Tay and part of the Jubur have become practically sedentary, the Shammar and Shashans remaining nomadic or semi-nomadic. There are also numerous small nomadic tribes roaming the desert between the cultivated belt and the Jordan border. These harvest the scanty desert grass with their flocks of sheep and goats and their herds of camel and a few cattle, and contribute considerably to the country's livestock production. A large part of Syria's meat, wool and dairy products is produced by the Bedouins. Their standards of living and education are quite low.

The increasing exploitation of arable land for crop production during recent decades correspondingly reduced the grazing area and, may, if continued, threaten a considerable reduction in livestock.

162 *Settled villagers.* The nearly two million villagers spread over 5,500
241 compact villages form the most important segment of the agricultural
511 population. They are the true cultivators of the soil whether they own the land or work on it as tenants or laborers. A large number farm entirely for subsistence. Even where there are large community pasture lands, the farms are usually small, frequently too small to give an economic return. Consequently incomes are generally low and many landowners, tenants and sharecroppers are constantly indebted to moneylenders. Although illiteracy among the villagers is on the decrease, education remains at a low standard.

The village people produce most of the crops, raise part of the livestock and supply the country with the bulk of its food and raw materials. Their agricultural activity as a rule is dominated by manual and draft animal

operation, in striking contrast to large private holdings where the most 162
modern machinery is used. Measures to raise the standard of living of this 241
group must be one of the main objectives of any development program; in 511
the first instance this must be effected through education, improved systems of land tenure, and better credit facilities.

Lessees and landlords. Some city dwellers have interests in agriculture 241
as leasehold operators of tracts of state domain, or as absentee landlords. 427
Although their interests rarely coincide with the demands of sound long-term farming practices, this segment of the population has been instrumental in opening new farm tracts (such as the Jezireh) and in introducing new crops, thereby contributing much to the national economy. The cultivation of the large absentee holdings is generally left to sharecroppers.

Sharecroppers. Each sharecropper is assigned a parcel of land from which, after the apportionment of the crop, he can hope to gain little more than a bare subsistence. In rainfed areas the sharecropper customarily receives rather less than 30% of the crop if he provides only his labor and around 70–75% if he also supplies the working capital; the percentages may be slightly higher in sparsely populated areas, and lower where population pressure is heavier. On irrigated lands the landlord takes 65–75% of the crop if he provides seed and water, and about half if the sharecropper provides the working capital.

In the long run, the position of the sharecropper would be more tolerable if the productivity of the land and his share of it were raised. At present, yearly land assignments may vary, with the result that the cropper has no incentive to improve the land. The restricted area of the assignment and lack of proper equipment, draft animals and money capital contribute to the permanent indebtedness of sharecroppers and their very low standard of living. Measures to improve their lot should include improved tenure status, Agricultural Bank and cooperative assistance in providing working and fixed capital, and resettlement schemes to relieve local land pressure.[1]

Agricultural Regions

241
In terms of natural conditions and the types of agriculture practiced, 438
Syria can be divided in nine main agricultural regions. 811

The Hauran and the Djebel Druze. The Hauran and the Djebel Druze includes the mountains of the Djebel Druze and the Julani in the south-

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[1] See Chapter 3, Sections III and VI, of the Main Report.

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west corner of Syria. The cultivated soil varies from fertile shallow chestnut in the Djebel Druze to the very fertile deep brown of the plains of Hauran. Part of the shallow, reddish-brown soil extending towards the Anti-Lebanon and the basin of Damascus is uncultivable because of its stony character.

The small to medium-size farm is characteristic of this region. Mules and oxen are the customary draft sources, mechanized agriculture being restricted to the few larger holdings. Wheat and barley are the main winter crops; vetch, lentils and sorghum the summer crops. The acreage under irrigation is insignificant. Although now outstripped by the newly opened Jez[illegible]h, the Hauran, famous as a granary in the Greco-Roman period, remains a leading cereal-producing area, and the yields in comparison with other areas are high. Excellent grapes and other fruits are produced in the Djebel Druze, but because of unfavorable market conditions and outlets and the lack of processing facilities and storage, much of each harvest is wasted. In the Julani region, where crop production is uneconomical because of the stony character of the landscape, but where good grazing conditions prevail, double-purpose cattle, for meat and draft, are raised successfully. In this area, land pressure is an urgent problem, especially in the Djebel Druze where many uneconomical small farms hamper progress.

Damascus basin foothills of the Anti-Lebanon. The ample layer of fertile reddish-brown soil of the Damascus basin becomes slightly saline in the Merj and towards the swamps of Lake Ateibe, though under drainage and irrigation these areas would probably be suitable for crops. The bottoms of many of the Anti-Lebanon valleys are covered with more or less deep layers of light brown to dark brown soils of moderate to high fertility, with gravelly alluvium bordering the western foothills. Irrigation water is obtained from the numerous streams, and the basin of Damascus is entirely watered by the Barada river coming from the fertile Zebedani valley. The Barada and many of the small streams offer possibilities of storing winter waters for the future expansion of irrigation.

Numerous orchards and vineyards are found in the Ghouta and in the various valleys, producing considerable quantities of fruits, grapes and nuts. Vegetable, hemp and fodder products, and in recent years cotton and sugar beets,[2] form the main agricultural crops of the Ghouta. Wheat and barley are the traditional regional winter crops and beans and peas the summer ones. As a rule farms are of small to medium size; particularly in the

[2] Sugar beet production in 1955 is expected to be over 30,000 tons.

Ghouta, dairy farming has been developed. The typical Damascus dairy breed is an excellent milk producer and apparently quite resistant to the heat.

The basins of Jairout, El Daou and Palmyra. The third region consists of the brown to grey desert soil. Crop and fruit cultivation, possible only under irrigation, is carried out in small depressions and plots along the bordering mountains where deep layers of very fertile soil occur. During the Greco-Roman period and earlier, a great part of these extensive basins, including the oasis of Palmyra, still famous for its fruits, were prominent producing centers. There are indications that moderate quantities of subterranean water exist.

On some of the best terrain, particularly on the watered alluvial soils, the intensive cultivation of sugar beet, cotton and wheat is possible. At Ain el Barde, for example, record yields are now obtained and reseeding of some of the large natural pasture now used by Bedouins appears to be feasible.

The western plains and hills. The gently undulating land northeast and southwest of Aleppo, the plains of Hama and Homs, and the hills east of the Djebel Ansariya may be broadly grouped as a single region. Soil types range widely from the stony and gravelly desert to the terra rossa and chestnut brown. Local productivity varies greatly with soil and rainfall, but taken as a whole this region ranks very high among producing areas.

The main winter crops are wheat and barley; vetch, beans and sorghum are the principal summer crops. Roughly one-third of the country's wheat production and nearly one-half of its barley come from this region. During the last few years, however, sugar beet and cotton have established themselves as cash crops, and in 1953 the region's cotton output accounted for about three-quarters of Syria's total production. Fruit and nuts in substantial quantities are produced in large orchards, sizable vineyards and olive groves in the Homs, Idlib and Aleppo areas. Most of the land holdings are large, cultivated mainly by sharecroppers; small holdings are in the minority and many of these are too small to be economically justified. As a rule, the best land is already cultivated and though large state domains exist, there is very little land available for further crop expansion. Farm machinery is becoming more common, although the area is still cultivated mainly by the *feddan* and other obsolete implements. Dairy farming is practiced around the larger population centers (e.g., Aleppo) but the industry is still in its infancy and pure-bred stock has been imported by only

241 a few progressive farmers. Mixed farming and pure sheep farming could
438 be successfully pursued in the eastern part of this region, but here, as else-
311 where, the greatest handicap is the land tenure system and unfavorable sharecropper conditions.

The coastal plains of Tartous and Latakia and the foothills of the Djebel Ansariya. Along the Mediterranean seashore up to 80% of the deep light sandy soil lends itself well to tree cultivation, particularly to irrigated citrus cultivation.

In general the region is well suited to highly diversified agriculture; the present system is that of winter cereals and vetch and summer crops such as summer legumes, melons and tobacco. About three-quarters of Syria's tobacco is grown in this agricultural district, Abu Riha, Chek el Bint and Tombak being the best known types. The recent cotton boom had its repercussion in this area, particularly as cotton can be grown without irrigation. The region is also well known for its olive groves. Citrus cultivation has gained in importance during the last decade but has only recently begun to receive the governmental attention it deserves.

Manpower is plentiful but land is scarce. The whole region is characterized by small and frequently uneconomic farms of less than 10 hectares. Pressure on the land is particularly evident in the foothills where crops are often farmed on marginal and submarginal land. Manual and animal draft operations are the rule, mechanized farming the exception. Livestock production and dairy farming is insignificant though in many parts of this region they would offer a better yield than does the existing farm system.

The central and northern plains, including the Jezireh. The central and northern plains region follows the line of the "fertile crescent", a strip varying in width from 50 to over 100 kilometers, extending in a semi-circle around the Syrian desert. Shallow reddish-brown type soils prevail, light at the fringe of the sub-desert, deeper, darker and more fertile toward the north. Landholdings are generally large and include great tracts of state domain. The size of individual estates runs from a few hundred hectares in the central plains to several hundred thousand hectares in the Jezireh.

Agriculture is extensive, rather than intensive, and the general manpower shortage has accelerated the introduction of the most modern equipment to cultivate and harvest the region's cereals and small grains. This is particularly true of the Jezireh, which, unlike the central plains, has been only recently opened to organized agriculture, and is now Syria's largest wheat and barley producing area; it accounts for over 40% of total Syrian

wheat production. While the best soils are practically all in production, 241
large areas of medium quality and marginal land are still available and 435
some of these might be cultivated after an appraisal of their productivity. 311
The recent speculative farming wave is responsible for the neglect of such appraisals and far too much marginal land has been broken up and cultivated. Dry farming in this belt (particularly south, east and west of Hassetche) depends greatly on the amount and distribution of the rains.

Although wheat and barley are the principal crops, mention must be made of the cotton and rice grown in the irrigated Khabour valley. The high cotton prices of recent years encouraged speculative cotton growing with varying degrees of success. Rice cultivation has been rather successful, but as it demands the highest water duty the cultivated area has declined somewhat in favor of cotton.

The northeast corner of the Jezireh. Toward the region of Deirik the brown soils of the steppe give way to chestnut brown, with rich black soil in the extreme corner of Deirik. The well-watered plains and undulating lands are intersected by the Jagh-Jagh, Khabour and Soutane rivers and their numerous tributaries, making possible irrigation over vast areas. Tractor cultivation is developing rapidly in this newly opened area, although in comparison with the western Jezireh and the steppe belt the region is less mechanized and more densely populated.

Practically all crops could be grown even without irrigation but wheat and barley are the leading winter crops and sorghum and sesame the main summer crops. Rice is an old staple but is now giving ground to cotton. In the region of Deirik good grapes, excellent potatoes, tomatoes and other vegetables are successfully grown but inadequate transport and storage facilities make their economical exploitation difficult. Livestock, particularly sheep, has greatly declined, due to the expanded crop area. The land is very well suited to raising cattle and beef. A diversification in land use would result in a more balanced and prosperous economy.

The valleys of the Euphrates and Khabour, and the Ghab depression. Though situated in entirely different regions and consequently showing different physiographical aspects, the large river valleys may be classified together in terms of soil fertility, cultivation methods, land tenure systems, population density and development potential.

In the Euphrates and Khabour valleys, the alluvial soil of deep silt loam has excellent agricultural qualities. The soil in the Ghab marshes, lying astride the Orontes about 40 kilometers east of Latakia, consists mainly of

241 458 311 heavy clay alluvium in the valley proper and terra rossa and some peat soil along the slopes. Whereas drainage is the main problem in the Ghab, the problem in the Euphrates and Khabour valleys is to extend irrigation so as to double the present cultivated area. The farms vary from rather large holdings of absentee landlords, cultivated by sharecroppers, to very small farm units owned and worked by the farmer himself.

Crop rotation followed in the irrigated area of the Ghab generally takes the form of barley, cotton, wheat and cotton, while the rotation in the Euphrates valley is similar to that in dry farming regions: cotton or summer crop, fallow, winter wheat.

Yields are generally higher than in the rainfed regions but full use is not made of the available water and the irrigation methods are backward in many parts. Though better yielding cash crops have been introduced, the farmer as a rule cultivates only the few traditional crops. In these areas agricultural education could do much to further more economic water utilization and wider crop diversification.

The lands in the immediate vicinity of the rivers are fully irrigated but not fully utilized during the entire year. Hundreds of thousands of hectares on the somewhat higher land on both banks of the Euphrates and in the lower Khabour valley form a potential future reserve, though the capital outlay required to bring them under cultivation would probably have to be furnished by the government.

The central plains of the Syrian desert. In the central plains low rainfall and extreme temperatures render agricultural production practically non-existent but the desert is quite important as a natural grazing area (except during the absolutely dry months) for the sheep and camels of nomadic Bedouin tribes. Many parts of the desert, particularly the large depressions, could be better utilized if desert wells were constructed.

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Types of Soil

311 The soils of Syria rank from the world's best to the poorest roughly in the order of (1) alluvial, (2) black, (3) chestnut brown and terra rossa, followed by (4) brown and reddish brown, and (5) grey sub-desert. According to a preliminary survey conducted by an FAO soil specialist the area covered by each of these various types of soil is approximately as follows (in thousand hectares):

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1. alluvial	200
2. black	100
3. chestnut brown and terra rosa	1,500
4. brown and reddish-brown	3,500
5. grey sub-desert	9,000

The remaining 3.7 million hectares is covered by lithasols, eroded rendzina, and saline soils, which for the greater part have no agricultural significance.

Unfortunately, the three best soil types represent no more than about 10% of Syria's total surface area of about 18 million hectares, and it is on these soils only that a wide variety of crops can be grown. Almost all of the brown and reddish-brown soils, covering 20% of the land area, fall in the inner region of the fertile crescent belt where steppe conditions prevail. These soils are most appropriate for the cultivation of cereals and small grains, and are utilized for such purposes in similar regions throughout the world. The grey sub-desert soils (50%) are used primarily for pasture; crop production is possible only under irrigation.

This evaluation serves only as a rough guide to detailed agrogeological soil maps. A more detailed survey of Syrian soils is in progress and it is imperative that it be continued, since soil maps are essential for planning, and, together with data on climate, may be used to determine the types and quantities of crops which may be cultivated to the greatest economic and social advantage. They would also be of the greatest importance for the assessment of taxes on land holdings, should such a tax be instituted.

Soil Fertility and Agricultural Use

Soil fertility and usefulness depend not only on type but also on profile, that is, the layers or horizons (topsoil and subsoils) of soil materials of various colors, on the chemical composition and on the configuration of the terrain and its water supply. 134
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The depth of profile determines the root rate and the bulk of material available for nutrition, and also indicates the total soil water available—a consideration of importance in view of Syria's semi-arid conditions. Here shallow soils, even the best type, are of limited value only; being more prone to drought than deep ones they are more hazardous as an agricultural base.

Chemical composition of the soil, especially the topsoil, also has an im-

134 portant bearing on fertility, for soils lacking a balance of the main elements
242 (nitrogen, potassium and phosphorus) or deficient in some of the minor elements (calcium, magnesium, etc.) are worthless for agriculture. Nitrogen, the most essential element in plant growth, is extracted from the soil during the growing period. In Syria, the customary method of restoring nitrogen is to leave the land fallow; for centuries this has been done rather successfully in the Hauran and elsewhere. The period of fallow—one, two or three years or more—depends on the type of crop, and, as far as the soil is concerned, the group, quality, depth and restorative capacity. In addition to the customary fallow, Syrian farmers near populated centers use town refuse to restore soil fertility. Unfortunately cheap manure and compost are generally consumed for fuel, but in recent years the use of commercial fertilizers has increased, particularly for cotton and sugar beet. While the Syrian farmers are aware of the importance of better crop rotation practices, improvement of soils through green manuring and leguminous crops is in its infancy.

During the last two decades huge tracts have been opened up, especially in the Jezireh. This land has been idle for centuries and its reserve of chemical compounds caused by decomposition of the natural vegetation is considerable. Though very good soils do exist, particularly in the northeastern parts, the magnitude of the stored elements has generally been overestimated. The reserves, particularly of nitrogen, are not inexhaustible. The virgin soil of the Jezireh has often been compared with virgin soil types in Russia, the United States and Europe but it must be remembered that in Syria the humus has not been so abundant as in humid climates, so that the nitrogen reserve is very limited. When that reserve falls below a certain level soil productivity decreases rapidly even if other elements are in plentiful
[311] supply. In Syria continuous exploitation under a monocultural system has resulted in decreased yields in certain areas, notably the Jezireh, where the danger is not yet fully recognized. Even artificial fertilizers cannot replace organic enrichment and the fallow system in its present form is far from sufficient to maintain fertility. New farm techniques, a changed rotation system and increased use of green manuring and fertilizers are urgent needs.

It is believed that Syrian soils are not generally deficient in phosphorus, important for growth and for the forming of grains and seeds, although chemical analyses indicate the total phosphorus available rather than the amount which can actually be absorbed by the plant. Assimilation depends largely on the acidity of the soil, and the p.H.[3] of practically all Syrian soil 184 is between seven and eight. Most of the phosphorus is blocked. Whereas 242 nitrogen and phosphorus deficiencies can be observed in almost all Syrian crops in various stages, very little indication of potassium shortage has been noted.

Besides the three main elements, the tracer elements iron, manganese, zinc, boron, copper and molybdenum are quite significant. A shortage or lack of one or another can result in low yields, even in soils generally classified as very good. The application of tracer elements e.g., the application of zinc and copper to fiber plants, citrus fruits, etc., has shown remarkable yield increases in other parts of the world. Unfortunately, very few studies of soil fertility and plant growth conditions have been conducted in Syria. Those made by Bracken for winter and summer crops and by Ibrahim Boules for cotton have indicated a general shortage of nitrogen, a disputable lack of phosphorus and rather favorable conditions as regards potassium. The excellent studies and surveys conducted by an FAO soil expert during the last few years have not been sufficiently intensive or extensive so far to form the basis of definite conclusions. But the mission is convinced that a thorough soil survey on the lines already begun by these specialists will be of great assistance in increasing the agricultural area and production. The compilation of the information thus gained, together with data on climate and water resources will be of much value in ensuring a sound rational basis for agricultural planning and development. Aerial mapping is a necessary adjunct to ground surveys and the successful coordination of the undertaking will require the development of a cartographic office.

II CEREALS

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Wheat and Barley

Syria is fortunate in being able normally to harvest its wheat and barley approximately one month earlier than American and European cereals; consequently they can be brought on to the European market at the time of greatest demand. Climatic conditions favor cultivation of hard and high protein-content wheats, much in demand for blending and for the macaroni industry. Both these factors can greatly influence Syria's wheat export potential.[4] Fostering development of early-maturing and high protein-content wheats should become a main objective of future research, particularly in view of the highly competitive world market in cereals and the rise in home demand created by the population increase.

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[3] p.H. values indicate relative acidity or alkalinity. Values run from 0 to 14, 7 indicating neutrality, numbers less than 7 increasing acidity, and numbers greater than 7 increasing alkalinity.

The experimental and research work in selection and breeding is still in the early stages. Shortages of trained personnel (in 1953 there was only one specialized research agronomist) and lack of organized planning are responsible for the rather poor results thus far. Concentration on a more intensive plant breeding program during the next five years is urgently needed. The staffs of the division of plant breeding and of the experimental division of the Ministry of Agriculture should be increased and additional budget allocations provided. If the recommendations of the mission are carried out, there is no reason why cereals production should not increase by at least 40% by 1960.

Syrian wheat can be divided into two main varieties; soft (*Triticum sativum*) and hard (*Triticum durum*); reliable data on the proportions of each are not available. It is generally assumed that hard wheat varieties are most widespread but as there is no officially controlled seed distribution center, the varieties are often mixed.

The most prominent hard varieties are the Haurani and the imported Senator Capelli (Sicily) and Florence Aurore (Morocco). The Hamari is rather well adapted to various soil types and dry farming practice and is said to be resistant to climatic extremes and to fungus diseases. The Bayyadi variety is tender to semi-hard. Distribution of varieties is shown in Table 1.

In addition to these, the Department of Agriculture, aided by FAO, has introduced a great number of the most promising rust- and disease-resistant wheat varieties and over 60 barley varieties during the last three years. Their adaptability to Syrian climate and soil conditions is now being tested in the regional field stations.

The quantity planted rarely gives the optimum yield. Almost everywhere too much seed (mostly poor quality) is used; amounts vary from 40 kg. per hectare in the grey sub-desert and gravelly soils to over 200 kg. per hectare on irrigated lands. Use of better seeding techniques should result in a saving of at least 25% in the course of the next 10 years. In par-

[4] Wheat and barley exports were worth almost £S 71 million in 1953.

ticular, wider spacing between rows not only affects yields but permits intercropping (e.g., rows of wheat interplanted with green manure and/or forage crops, and later with cash crops), which may lead to the reclamation of many devitalized soils. This implies a long-term program: row seeding and interplanting must be tried out on a selective basis under the guidance of the agricultural extension service.

The mission recommends introduction of a cleaning and grading system to improve the marketability of export wheat, with standardization in at least two types (hard and soft), each with a minimum protein specification.

TABLE 1 Percentage Distribution of Wheat Varieties in Various Districts, 1953

District	Haurani[a]	Hamari[a]	Bayyadi[b]	Capelli[a]	Florence[a]	Others	Observations
Damascus . .	40	—	—	40	—	20	Mostly under partial irrigation.
Homs	15	40	25	15	5	—	Partially irrigated.
Hama	5	55	25	15	—	—	Partially irrigated.
Hauran . . .	95	—	—	5	—	—	Dry farming.
Euphrates . .	—	70	10	10	10	—	Mostly under full irrigation.
Jezireh	—	45	10	15	15	15	Only small areas under irrigation.
Aleppo	—	70	13	10	2	5	Dry farming.
Latakia . . .	—	50	15	10	15	10	Dry farming.
Djebel Druze .	—	95	—	5	—	—	Dry farming.

[a] Hard.
[b] Semi-hard.

SOURCE: Ministry of Agriculture.

The use of commercial fertilizers is also recommended, particularly in the Jezireh. Insecticides and fungicides should be tried out on a large scale and the influence of weedicides should be studied at demonstration farms.

Whereas many of the wheat varieties are indigenous, only one of the few barley varieties seems to have originated in Syria, the White Arabian or Syrian. Moderate to early maturing, it is rather adaptable to poor soil. It is used in the manufacture of bread and beer and is the only variety exported. The Black Arabian is preferred for its larger seed and earlier maturity and

243 makes good animal fodder; it is too rough for human consumption. The Prieur, imported to the Damascus Field Station some 15 years ago, and rather well adapted to all soils, has become a high yielder; the hard seed must be ground before being used as animal feed.

Pests and diseases caused quite substantial losses. The most destructive of several sucking insects is the Wheat Shield bug (*Burygaster integriceps*) which is said to cause wheat and barley losses up to 30% in some areas. Planting of early maturing varieties is one of the best means of control, for the insect rarely attacks seed that has begun to harden. Considerable damage can be caused to stored grain by the grain weevil (*Calandra grenaria*). Wheat smuts and wheat rust are responsible for substantial losses, especially in regions with seasons of high temperature and excessive humidity, e.g., Latakia and certain parts of the Jezireh. Remedial measures should include the importation of rust-resistant varieties, the breeding of local resistant varieties and the planting of early maturing strains. Destruction from locust invasions, though still significant in many areas, has been greatly reduced by modern entomological and chemical science and by national and international anti-locust control measures. Windburn and lodging still cause considerable damage. The scale of these losses clearly calls for a careful selection and breeding program.

Recommended Cereals Seed Program

The mission suggests that a seed selection program be carried out as follows:

1st year: Continuation of the selecting and breeding program started some years ago in the experimental station. Comparative tests of foreign and local varieties and selection of those best adapted to each region. Promotion of early-maturing and high protein-content varieties, and selection of disease-resistant strains. Tests of intercropping, and trials of other improved cultural methods and their influence.

2nd year: Purification of superior varieties. Introduction of parental material for hybridization. Seed production. Experimental tests to determine optimum seed quantities for various soils under varying local conditions. Continuation of tests for intercropping.

3rd year: Comparative yield tests of the best local and foreign varieties. Tests of influence of cultural methods. Seed production of the most promising types. Release to selected seed producers of promising types tested during at least three years. 243

4th year: Continuation of yield tests. Growing of F. generation hybrids. Retesting of seed released the previous year to seed growers. Seed rejuvenation of older material. Establishment of priority standards.

5th and following years: Comparative yield tests of the best varieties, including hybrids. Evaluation of hybrids.

A committee for seed production composed of representatives of the Ministry of Agriculture and accredited seed growers should be established to promote a certified seed program. The FAO should be invited to assist this committee. The committee would designate desirable varieties for the various regions, advise on seed imports and designate the standard for certified seed. The Ministry of Agriculture should set up an appropriate organization to certify and distribute seed to accredited traders on a non-profit, non-loss basis, and to grant premiums for the best seed grown. Proper supervision of seed farms through field inspectors will be necessary to safeguard against the admixture of impure or other seed both in the field and in the process of threshing and cleaning.

Following experimental seed testing, the stages would be:

1. Transfer of seed to the extension service for multiplication under its direct supervision and control. Some of the present experimental stations could serve as propagating centers.
2. Allocation of registered seeds among seed-growing districts and seed growers in accordance with their interest in particular strains.
3. Selection by field officers (extension agents) of experienced farmers whose land would serve as demonstration plots for the nucleus seed.
4. Drawing up of contracts by the Ministry of Agriculture with accredited seed growers to harvest the seed and return it at premium rates (establishment of certified seed growers). This seed, having been tested and labelled, would then become certified government stock seed.

III COTTON

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The legislation relating to cotton production is adequate and marked a great step forward. The government should, however, enforce the prohibition against planting in areas where climatic conditions make such planting hazardous; apparently many farmers still disregard the legislation and plant in dry-farming areas, frequently with unfortunate results. Effective enforcement requires sufficient enforcement personnel, and, equally important, enough qualified extension agents to convince the farmer that the legislation is to his benefit. Even in other countries well suited to cotton growing, risks have been overcome only through year-long practical education and guidance by field extension agents capable of translating research findings into readily understandable terms.

In addition, the establishment of associations of cotton growers could do much to further the education of their members, help execute the various decrees, and act as liaison between farmers and government. Credits to facilitate seed purchase can be obtained under general rules of the Agricultural Bank. Loans for the acquisition of insecticides (cotton dust) are authorized by law.

The cultivation of cotton has gone a long way by empirical experimentation with native varieties and American and Egyptian strains; annual production is now estimated at over 50,000 tons of cotton fiber and about 100,000 tons of cotton seed or 150,000 tons of seed cotton, worth about £S-150 million.[5]

The availability of fertile soil and favorable climatic conditions augurs well for further development of production. With steadily increasing interest on the part of government and private individuals, cotton may well become an even more valuable crop and contribute increasingly to Syria's foreign exchange income. We therefore recommend continuation of serious efforts toward quality and quantity improvement. It is suggested that better hand tools, such as hand drillers, be used, and that technical advice to farmers be extended on an expanded scale.

More specifically, we recommend:

1. *Cultivation.*

a. Seeding. April to May, depending on the weather and region. The seedbed should be thoroughly worked, if done manually, by plowing

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[5] Exports of cotton, cotton seed, etc., in 1953, were as follows:

	Tons	Million £S
Raw cotton	53,946	134.703
Cotton waste and lint . .	424	.261
Cotton seed	28,418	5.506
Cotton seed oil	1,223	1.414

SOURCE: Statistical Abstracts.

two to three times. Seeding of only first class seed; not more than four seeds per hole.

b. Spacing. 25 x 60 cm. or a rate of about 120,000 to 150,000 plants per hectare. This helps early maturity, whereas wide spacing leads to heavier vegetative growth, late maturity and consequent exposure to bollworm.

c. Watering. If irrigated, watering immediately following sowing, repeated every 10-15 days till about 80% of the bolls are formed.

d. Fertilization. Distribution of fertilizers at cost to a selected group of farmers whose farms could serve for demonstration purposes.

2. *Control measures.* The previous year's cotton stalks should be rigorously removed and host plants destroyed. Posters showing the life cycles of the various insects and host plants should be distributed. Plant entomologists should regularly inspect the cotton fields in plague-infested regions in order to direct an effective campaign. Dusting or spraying with more effective, less expensive insecticides or by mechanical equipment on a cooperative basis should be instituted. Progressive farmers should be asked to make large-scale weedicide tests, subject to compensation in case damage is done. Premiums should be introduced for the best cotton growers.

3. *Establishment of a seed propagating station.* At present the government does not have adequate technical staff to direct and operate an effective up-to-date seed propagating station. The mission recommends that existing propagating facilities be greatly expanded, along the following lines:

1st year: Extension of seed propagating efforts under the direction of foreign experts already engaged; training of four Syrian agronomists to continue the seed propagation work in the three typical cotton regions of Aleppo, Jezireh and Euphrates.

2nd year: Continuation of seed propagation and selection of strains best adapted to the various regions; initiation of permanent field experiments; establishment of a demonstration farm in each region to specialize in seed material, insect control and weed control.

3rd year: Continuation of seed propagation with permanent agencies in the three main regions and demonstration farms serving as training centers for extension agents.

4th and 5th years: Establishment of an experimental station for cotton breeding, control of plant diseases and insect and pest control.

248 4. *Gradual reduction of cotton cultivation in dry-farming areas.* Cotton growing under dry-farming conditions is too hazardous in Syria.

5. *Selection of cotton growing areas and permanent restriction to these regions.*

6. *Rotation plan.* Introduction of rotation without the customary fallow, e.g.:

1st year: cotton, green fodder mixed with barley; or cotton, wheat.

2nd year: maize, sorghum, green manure; or wheat, fodder crops.

3rd year: early peanuts, wheat mixed with leguminous plants or horse-beans; sorghum.

7. *Establishment of cotton grower associations.*

249 IV SUGAR BEET

In 1953-54 the cultivated area, mainly around Homs and Damascus, amounted to 4,200 hectares of irrigated land and about 2,000 hectares of rainfed land, generally divided into small plots of a few hectares and worked manually. The price of £S 60 per ton of beets delivered at the Homs factory makes cultivation very attractive, even to farmers at some distance from the factory and despite high labor costs. Maximum transport cost from producer to factory was, at the time of the mission's visit, £S 9 per ton. Seeds from Holland and Germany were provided without cost by the Sugar and Agricultural Products Company until 1953; since then the farmer has had to meet half of the cost of £S 117 per kg. Some farmers are thus inclined to produce their own seed, although ideally this should be undertaken only by experts.

The mission makes the following recommendations with respect to sugar beet:

1. Expansion of production should be sought mainly in irrigated areas. Careful account should be taken of all planting and climatic conditions since they directly affect sugar content; hot days and cool nights are a favorable influence.

2. The selection and development of an early-maturing type adaptable to Syrian conditions should be considered.

3. Sugar beet growing in rainfed regions with less than 600 mm. rainfall should be transferred to partly or fully irrigated land. It can rely on the abundant late winter and spring rains for partial irrigation.

4. Mixed farming should be promoted in sugar beet areas. The cash 249 return from sugar beet production is three to six times larger than that from wheat and other crops. Moreover, the leaves from one hectare of sugar beet make an excellent silage fodder, equivalent to about 4.5 tons of good hay.

v CROP DIVERSIFICATION

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Practically all temperate and many subtropical crops can be and are 311 grown in Syria. Their distribution, however, is very poor. The mission strongly emphasizes the desirability of a wider diversification to lessen the risks and to ensure a better use of available land and manpower. In nearly all the rainfed zones leguminous fodder crops could be substituted for the customary fallow. These would provide the soil with needed nitrogen, improve its structure and serve as fodder. If livestock were adequately fed for a single season, human food production would probably thereby be increased, indirectly, to a greater extent and sooner than if the land were sown to crops for human consumption. An increase in livestock, particularly in irrigated zones but also in the rainfed area, means fuller employment and higher income for the rural population.

To supplement winter vetch and berseem, the mission suggests the introduction for field trials of the cluster bean (*Cyanopsia sp. sp.*), a grain and forage plant widely cultivated in Sicily; some of the varieties can be grown with sorghum. In addition there is the possibility of goat's rue (*Galega orientalis*), a bushy, erect perennial herb of high nutritive value, and of sulla (*Hedysarum coronarium*), which can be used as green fodder or hay and which ranks with red clover in nutritive value. The latter grows best in deep, rich calcareous soils, but can also be grown in poor soil if it contains lime. Sulla can be sown alone, with cereals, or in mixtures with other legumes; it yields up to 120 tons of green matter per hectare under irrigation, and it may produce from 16-50 tons even on non-irrigated land.[a] Trials to reseed a wild species of alfalfa, reported to grow in the Anti-Lebanon region, should be undertaken in other areas. Cultivated lucerne and alfalfa (*Medicago sp. sp.*) have responded successfully; their more extensive cultivation should be encouraged. Of the 50 or more species the most common is *Medicago sativa* and *M. varia*, of which many strains are adapted to drought and to hard winters; they can be grown as either winter or summer crops. The same can be said of the clovers (*Melilotus sp. sp.*) and the fenugreek (*Trigonellis sp.*), good fodder plants which can be mixed with oats or vetches.

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[a] FAO publication, *Legumes in Agriculture*.

Even under an irrigation system the selection of hardy cultural winter crops for Syrian conditions is very restricted and none can replace the winter cereals as cash crops. A greater choice is possible among summer crops, some of which may become quite significant in the future.

Besides the great variety of cow peas (*Vigna sp.*), vetches (*Vicia sp.*), chick peas (*Cicer sp.*), lentils (*Lens sp.*), beans (*Phaseolus sp.*) and peas (*Pisum sp.*), the cultivation of peanuts (*Arachis sp.*) and soya (*Soya max*) is strongly recommended. Both are grown in Syria but current production is negligible, in spite of the fact that these crops are adaptable to both small and large size farming. In the coastal plains, in many parts of the fertile crescent and particularly in the Euphrates and Khabour valleys, there are ideal soils (well drained, fertile sandy loams) and favorable conditions of climate (good rainfall or irrigation possibilities during the growing and seed setting periods, combined with hot weather during the time of seed ripening) for their cultivation. Preferably, the multi-purpose peanut should be grown in rotation with maize, sorghum or hemp. Areas in Syria where peanuts could be grown successfully must run into tens of thousands of hectares.

An even wider range could be found for soya, which could be cultivated for human consumption, concentrates for farm animals, oil and for the manufacture of many other valuable materials (e.g., plastics). The soya plant also makes good hay, silage or pasture. Its increased production would be of great value to Syria, for its flour, when mixed with wheat flour, would improve the national diet. Soya thrives best in somewhat moist loose soil, but is also rather drought-resistant. Numerous varieties and strains exist, adapted to different growing conditions and early maturing from 60 days on.

A departure from the traditional farming system and a shift to greater diversification and mixed farming will take time and can be achieved only through demonstration and education. No radical change can be expected in the next year or two; intercropping of the cereals with leguminous plants would be a good start. Distribution of free seed and some financial help to the owners or sharecroppers of small farms selected for demonstrations could undoubtedly accelerate the recommended changes.

VI IRRIGATION TECHNIQUES

Even when the irrigation program gains momentum, water will remain one of the principal limitations on agricultural expansion. Optimum water utilization requires making the most of available supplies and avoiding waste, as well as limiting cultivation in irrigated areas to those crops which need irrigation.

The Use of Water

At present, farming techniques are such that in many areas large quantities of water are wasted, particularly by surface evaporation,[7] and only rarely is the water evenly distributed over the land. Development of the best irrigation techniques (such as furrow irrigation) for the soils of the various regions clearly requires the establishment of research and demonstration sections in the agricultural stations existing or recommended for the various localities, for the farmers will rarely adopt new methods unless they can see the benefits at first hand.

Crop Restriction

Since the quantity of water is limited, it is equally important that irrigated fields be reserved for those crops which will derive most benefit. Conversely, crops such as cotton and rice, whose cultivation is hazardous under dry-farming conditions, should as far as possible be grown only on irrigated areas; sugar beet also requires irrigation in areas where the rainfall is less than 600 mm. A licensing system already exists with regard to cotton cultivation and it is important that it be enforced. In the long run, however, the farmer himself should be able to assess the profitability of crops grown under various conditions. The demonstration stations mentioned above should therefore be equipped to show how different quantities of water affect a variety of crops. To assure year-round utilization of land in irrigated areas (as elsewhere) farmers must also be educated in the use of soil-replenishing crops which will at the same time profitably replace fallow.

[7] Conversely, many farmers do not know how to drain their land when there is too much water.

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VII PASTURE RESEEDING

In the Main Report we specifically recommended the reseeding of the Resafe and Palmyra desert basins where the soil is fertile, the rainfall generally higher than in other desert regions, and the possibilities of storing some of the water and distributing it evenly by means of diversion dams better than elsewhere. In parts of Australia, Morocco, Algeria and South Africa, where climatic conditions are similar to those in the Syrian desert, introduction of the following herbs and grasses has shown good results: salt bushes (*Atriplex semibaccata; Atriplex vesicatum*); blue bushes (*Kochia sp.*); crow foot (*Erodium sp.*); buffalo grass (*Cenchrus cilinaris*); veldt grass (*Earharta calcycina*); *Lotus maroccanus;* and *Dactylis glomerata,* var. *Hispanica.* These perennials, more or less winter-hardy and drought-resistant, plus the existing flora, would probably make excellent sheep and goat pasture in Syria. The group of FAO experts which has been conducting experiments with respect to improved grazing conditions might help the Ministry of Agriculture to develop a successful program.

Since conditions in Iraq and Jordan are similar it would be advantageous if these countries were to participate in the program.

VIII LIVESTOCK

232 *Livestock Center*

We understand that a site for a center near Damascus has already been selected. We urge that stables and shelter, which would be designed to serve as models, should not be so elaborate as to be beyond the reach of the average farmer. We suggest that the main center have three separate divisions for sheep and goats, cattle, and poultry respectively, and that the two principal tasks of the staff should be to initiate a breeding program and to train Syrians in this work.

In the Sheep and Goat Division the sheep breeding program might be conducted along the following lines:

1st year: Assembling a station flock of the best indigenous type; purchase of 200-300 native ewes; and importation of a nucleus of pure-bred flocks—Merino from South Africa, Merino-Fleisch from Germany or

Turkey, and, if possible, Karakul. For a start there should be three rams, plus at least 12-15 in-lamb ewes of each breed (preferably from the same breeder). The indigenous ewes would be inseminated with semen from the imported stud rams.

The flock of indigenous ewes is to be sent on migration under usual conditions. Careful periodic observations must be made for the purpose of recording such data as birth weights and growth rate of lambs; quality and quantity of wool produced by this and successive crosses; mortality among lambs; resistance to parasites; tolerance of environment as represented mainly by nutritional plane and climate; and general adaptability.

2nd year: The F_1 generation will grow to 12 months. All data concerning this generation must be recorded.

Two of the assistant staff might be sent on post-graduate fellowships abroad, and two recent graduates be added to the staff.

3rd year: Insemination of females of the F_1 generation with semen from stud rams. Observation and recording of the characteristics of the F_1 generation, further recruited by lambing.

4th year: Observations on maturation of the F_2 generation. Recording F_1 and F_2. Establishment of a stud book. Establishment of the sub-stations recommended in the Main Report. Formation of flocks for similar purposes in Palmyra and Deir ez Zor, largely by transfer of surplus animals from the Damascus station.

5th year: Insemination of F_2 and F_1. At the end of this year there should be sufficient indication as to the suitability of the chosen breeds, and it should be possible to extend cross-breeding facilities to selected local flocks through the agency of insemination stations.

6th year: During this year, the F_3 generation will come to maturity. Sufficient data will be available to permit a final comparison of the suitability of the different breeds to Syrian conditions. It should then be possible to decide whether to continue topcrossing to produce virtually pure-bred stock, or whether the objective should be an intermediate type of perhaps three-quarters imported blood.

During the five-year program, the main station should also establish a good flock of the Damascus type of milk goat, and fully record all data. The aim should be to fix desirable characteristics for breed. In general, experimentation and research should be on lines similar to those applied to sheep.

In the Cattle Division the program would be:

1st year: Assembling two herds, one of Damascus and one of Julani, by purchase of selected cows, giving preference in the case of the Damascus breed to cattle families known to the breeders as throwing a high proportion of good-yielding cows. Experience suggests that it is from animals of this type, rather than from the occasional freak with an exceptionally high yield, that improvement of indigenous types is most readily effected. The selected herd of Damascus cows should be fed for milk production, and the herd of Julani cattle for meat and draft purposes. Full herd-book and production records should be kept, and the data derived should form the basis for the establishment of Damascus and Julani herd-books within a few years.

Importation of a herd (three bulls and 12 in-calf heifers) of foreign breed; Brown Swiss might best serve the triple purpose of milk, meat and draft. The aim must be to maintain four herds at the main center—a pure-bred Damascus herd, a pure-bred Julani herd, a pure-bred Brown Swiss herd and a grade herd.

From the start fodder should be grown on an adequate scale and fodder production should be regarded as of major importance. Every advantage should be taken of silage and of new or improved crops. Great emphasis should be laid on the provision and preservation of feed during the winter. Concentrates that may become available from local industrial enterprises, e.g., dried sugar beet pulp, oil cakes, etc., should be utilized and their nutrient value evaluated.

2nd year: Recording of milk production. Recording F_1 generation: weight; growth; hemoglobin; blood minerals; adaptibility to environment. Continuation of trials of feeding methods.

3rd year: Continuation of herd records and experiments with fodder plants and feeding. Establishment of a stud-book. Establishment of Breed Association for Damascus cattle. By this year it would be possible to start experimental artificial insemination of local farmers' cattle with selected or imported bulls. More attention should be paid at such schools as the Kharabo Agricultural School and the Damascus Veterinary School to instruction in artificial breeding techniques.

4th and 5th years: Continuation of the development of the selected indigenous and imported herds. There will now be an F_2 generation of the grade herds and all three herds should be well established.

The program should be continued until sufficient data on production, adaptability and feed requirements have been collected to make possible

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a reliable comparative evaluation of the different herds under Syrian conditions.

The Poultry Division should import high-producing breeds, e.g., Rhode Island, New Hampshire, Leghorn and Plymouth Rock. Accepted modern practices of elimination, selection and feeding should be followed and quality should be maintained by regular culling and full recording. Failure to maintain the original quality by the two latter methods is the principal defect in many flocks maintained by institutes in countries of the Middle East and Far East, and is usually associated with heavy wastage from preventable disease.

The aim should be to establish a hardy type of dual-purpose bird—for eggs and meat—of special value to the small farmer. Experimental work should be done on control of parasites and construction of cheap but hygienic poultry houses of locally available materials. The land and feed requirements of the poultry unit should receive every consideration when the fodder crops program is being planned, and full use should be made of such by-products as oil cake.

During the second year selected cockerels of high-producing breeds could be distributed to the villagers to improve local strains. These should first be immunized against Newcastle disease and a service should be organized to encourage mass immunization throughout the country.

A few graduates of Kharabo and the Damascus Veterinary School might be encouraged to specialize in poultry improvement and at least two fellowships might be awarded for practical work overseas. Once the main flocks are well established at the central station, similar projects might be developed at additional sub-stations distributed throughout the country. These centers should specialize in establishing the best type for the various regions.

We estimate necessary capital outlay for this program at £S 380,000 and ultimate annual operating cost at about £S 240,000.

Veterinary Service

The headquarters of the Government Veterinary Service is in Damascus where, as the Department of Animal Resources, it forms part of the Ministry of Agriculture. There is a government veterinary laboratory in Damascus, mainly occupied with diagnosis of disease and preparation of biological products, i.e., vaccines and sera. A certain amount of modern equipment, including centrifugal freeze-drying plant, has been provided in recent years by FAO, which has also assigned specialist personnel to undertake diagnosis to prepare vaccines and sera and to instruct Syrian personnel in this work.

At present the Syrian staff of the laboratory consists of one fully qualified veterinarian (trained in France and Germany) as Director, and four Syrian veterinary assistants trained in the Damascus Veterinary Technical School. One of the assistants has recently been awarded a fellowship (FAO) for training in dairying and is at present in Denmark. Another will be taking up a year's fellowship in July 1955 to study the practical production of veterinary biologics in Denmark and Sweden.

The laboratory is basically well enough equipped to prepare any type of vaccine, and in particular prepares such modern living virus vaccines as those of Newcastle disease, fowl pox and sheep pox. Vaccines of this type are freeze-dried to improve their keeping qualities and to enable them to be standardized by tests and titrations.

In addition to supplying Syria with all the vaccines it requires, the laboratory during the last twelve months has supplied large quantities of anthrax, black quarter, fowl pox, sheep pox, goat pox and Newcastle vaccines to Lebanon and Jordan. In fact the consumption by Jordan and Lebanon of Newcastle vaccine in particular has been considerably greater during this period than that of Syria. This emphasizes the recommendation in the Main Report that transport and all the necessary facilities for performing mass immunizations should at once be made available to the veterinary service.

It is essential to any plans for the improvement of livestock that efficient veterinary services should be available both to the Bedouin stockowners and to the settled farming community, and that the confidence of the stockowners in such services should be built up to the point where they will rely on skilled assistance from the service to help them to meet the day-to-day problems of caring for animals of improved types.

An inventory of modern equipment suitable for district veterinary stations should be prepared and orders should be placed as soon as possible.

It is recommended that meetings of the professional staff be held regularly and that the first of these meetings give consideration to a mass immunization campaign against Newcastle disease. Such a campaign would save the lives of hundreds of thousands of birds during the first year and would enable poultry to make a substantial contribution to family incomes 232 in the villages.

Very recently the Bedouin shepherds have apparently acquired confidence in the sheep pox vaccine, and the mission was informed that demands for vaccination in 1954 far outstripped the capacity of the field services. Sheep pox is a disease which annually causes considerable losses, but for which an efficient vaccine is available. It would seem incumbent on the government to insure that the service has the facilities for applying vaccination to the flocks.

It is recommended that with the assistance of the district veterinary staff the laboratory carry on seasonal surveys of blood mineral levels of sheep and cattle, and helminth burdens. Young veterinary assistants or science graduates should be trained to collect the blood samples in the one case and the parasitic worms in the other. The blood mineral determination and the determination of parasitic worms would be made at the laboratory. Therapeutic and control measures based upon these findings should be applied by the district veterinary staff in consultation with the laboratory. Some strengthening of laboratory staff at the veterinary assistant level will be required if systematic studies of this nature are to be undertaken.

The increasing incidence of brucellosis and tuberculosis in dairy cattle in the suburban areas to which reference has been made in the Main Report calls for investigation by biological tests and the application of control measures. The introduction or development of more productive types of livestock inevitably brings more problems for the veterinary service; unless the service can cope with these problems and meet increased demands for assistance the improved types of stock will not survive.

Artificial breeding methods, which are likely to be employed on an increasing scale as livestock farming methods advance, should be completely controlled by the service. The method can be as efficient in spreading certain diseases as it is in distributing the sperm of superior sires; the fullest possible measure of veterinary control must be exercised to guard against this danger.

The control of abattoirs and meat inspection is performed by veterinarians 232 744 and veterinary assistants in the employ of the municipal authorities of such cities as Damascus and Aleppo. The municipal abattoir of Damascus is about 130 years old and is now almost enclosed by the town. It is

232 714 desirable that a modern abattoir be built in a more suitable location; the present problem of drainage disposal would alone warrant this measure. There should be no difficulty about the provision of capital for such a project, since the municipal authority can recoup its expenditures by the collection of fees.

232 The present budget of £S 188,000[8] for personnel and equipment bears no relation to the value of Syrian livestock or to preventable losses. For more effective disease control the mission has recommended that an additional £S 1.2 million be made available during the next six years.

242 871 IX EDUCATION, RESEARCH AND EXTENSION

Education

Elementary agricultural education. Since 1949 the rural elementary schools have devoted the two final years (fourth and fifth grades) to theoretical and practical instruction in agriculture and hygiene. At present 111 offering this type of instruction, each with a field of five *donums*[9] for practical field training, are distributed through *mohafazats* as follows:

Damascus	37	Dera'a	13
Aleppo	9	Soueida	11
Latakia	11	Deir ez Zor	9
Hama	5	Hasetche	5
Homs	11		

The pupils (9,000 in 1954) learn the basic principles and techniques of agriculture, practicing them in the school gardens.

Clearly this number of schools cannot provide basic rural education for all the children of Syria's 5,500 villages. Apart from the need to build more schools and enlarge existing ones, a way must be found to train additional agricultural teachers; the teacher training and secondary agricultural schools in Dera'a and Kharabo do not turn out sufficient numbers.

The mission therefore makes the following recommendations:

[8] £S 50,000 for laborers at the Damascus veterinary research center and in the provinces; £S 40,000 for purchase of animals and feed; £S 98,000 for technical requirements (£S 20,000 for the Damascus laboratory; £S 58,000 for the preparation of vaccines and biologics material; and £S 20,000 for medicines in respect of the treatment of parasitical diseases).

[9] A donum = 0.1 hectare.

1. A number of village school teachers should be given an intensive one-year course in agriculture. 242 871

2. Agricultural courses could be profitably substituted for some of the less essential subjects in the rural curricula, as teachers become available.

3. Night classes in agricultural education should be established in the rural elementary schools.

4. Rural elementary school pupils should be encouraged to organize societies to continue their activities outside school and school gardens.

5. Forest farm crops should be included in school gardens, and tree planting should be encouraged on national holidays. Each pupil could be responsible for a tree planted during his school training.

Secondary agricultural education. There is one agricultural vocational school in each of the provinces of Damascus, Homs, Aleppo, Latakia and Euphrates but of these four are intermediate schools and only the one at Kharabo (near Damascus) can be classified as a fully-rated secondary school. About 500 students are enrolled in all five schools. Some of the graduates subsequently engage in farming; the great majority apparently become government employees in the agricultural or in other services. 874 242

In the future these schools will be called upon to meet the growing personnel requirements of the government's agricultural, livestock, veterinary and forestry services. At Kharabo particularly, future technicians should be trained to assist in research and extension work. The present four-year curriculum includes all the elements necessary for a general understanding of today's agriculture and its future development, but students should be given an opportunity to specialize, at least during the third and fourth years, in such subjects as rural credit, crop production, livestock and animal husbandry, mechanization and techniques of industrial utilization of agricultural products, e.g., dairy products, fruit preservation, vegetable and meat marketing, tobacco curing, vegetable oil production, meat processing and curing, and the tanning of skins and hides. Better still, two or even three years of training should be added to give the students three or four years of specialization and bring them ultimately to the junior college level.

In the mission's opinion, the curricula of all agricultural schools emphasize theoretical studies too much and practical training too little. Effective farm managers and extension agents must be willing and able to demonstrate with their hands what should be done on the farm. To obtain the respect of the peasants they must be willing to get their hands dirty

874 and able to do the practical work on the farm themselves. We suggest
242 therefore that the present curricula be reviewed by a committee consisting of representatives of the Ministry and agriculturists, with the object of putting greater stress on manual training and on practical problems.

There is need for a vocational agricultural school in the Djebel Druze and the Hauran. For the time being this need could be met by broadening the curriculum of the Dera'a school, including special courses in agriculture. Stress should be laid on horticulture and fruit processing. In addition, at least one other school, preferably at Aleppo, should be raised to the same standards as Kharabo.

Elsewhere we have recommended that the curriculum include a mechanical training course.

We have also recommended the establishment of a secondary agricultural vocational school in Kamichliye. It should be located on soil most typical of the region and should have grounds adequate for experimental and demonstration plots, including an irrigation area. This school should become the headquarters for all agricultural education and extension work in the Jezireh; its curriculum should include courses on farming systems and the economics of mechanized agriculture. The third and fourth year curriculum should permit a choice between a technical course of study oriented towards machinery, repairs and maintenance, and an administrative course of study emphasizing economics and administration. We would expect enrollment to be 100-150 from 1957 on.

873 *Adult education*. Farmers should have an opportunity for formal in-
242 struction in the principles of good farm management and animal husbandry. Elsewhere we have suggested a pilot fundamental education program which would, among other things, include agriculture in its scope. Quite apart from this we believe that the rural elementary schools which provide instruction in agriculture should offer evening courses in which, with the help of proper visual aids, farmers could learn about improved crop rotation, better cultivation and weed control, means of identifying and combating pests and diseases and the like. Mobile trailers equipped with slide and moving picture projectors might be useful. In addition, we suggest raising the standards of mechanical farming by starting special courses at Kamichliye and probably at Aleppo for machinery owners, operators and mechanics. The first would be taught how to select proper farm machinery, supervise its operation and would learn the economics of mechanical farming. The second would be given practical training in opera-

tion, maintenance and elementary repair of machinery. These courses could 373 be organized with the help of an FAO expert and in cooperation with farm 242 machinery dealers. They might be given under the aegis of the agricultural school at Aleppo and the proposed school at Kamichliye.

Certificates of competence should be awarded after suitable tests; if employers were to increase the pay of holders of such certificates, this might provide an incentive to workers to take such courses.

University level. Syria has no agricultural college or faculty; all the top staff of the Ministry of Agriculture have been trained abroad. The government and the Ministry send students to Egypt, Europe and the United States; the FAO and other organizations grant fellowships to Syrians. In 1953, 58 agricultural students were studying abroad in various fields—37 in Egypt, 11 in France and 10 in the United States.

Syria will be in great need of agronomists, agriculturists and veterinarians in the coming years. For the time being the total of fellowships should be increased to permit foreign study by 15-20 more students each year. The curriculum of the secondary school should also be expanded, as indicated above, to include one or two years of special work, for immediate and pressing needs.

Research

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Syria had 18 experimental stations in 1954. They are well dispersed throughout the provinces and have reasonably good facilities and adequate grounds. Eight of the stations, in the provinces of Damascus, Hauran, Homs, Hama, Euphrates and the Jezireh, are engaged mainly in cereal and field crop research; the rest in horticultural work. Unfortunately, the stations work more or less independently of each other and this lack of coordination, coupled with staff and budgetary deficiencies, greatly impairs their effectiveness.

Despite the government's commendable efforts to offer Syrian personnel courses of study abroad, well-trained agronomists, horticulturists, agricultural engineers, zoological technicians and veterinarians will be lacking for some years to come. This suggests the advisability of limiting the extent of experimentation in the 18 understaffed stations.

Coordinated and central programming for future research is essential; this should be the task of one station, which may become the nucleus of a future Central Research Station. For the time being, we suggest that

242 654 activities be allocated among five departments which might later be incorporated into such a central station: soil; farm crop and horticulture; plant pathology and entomology; agricultural engineering; and rural economics. It has already been indicated that there should be a separate livestock center.

The embryo Central Research Station should assemble and evaluate research work already done in such fields as cereals and cotton; it should engage in intensive rather than extensive research. Existing stations should undertake seed selection and propagation. In the course of time some of these stations might become sub-stations of the C.R.S. with responsibility for carrying out the experimental and demonstration programs to be planned each year by the C.R.S. But this stage cannot be reached until the sub-stations are adequately staffed with competent research and field personnel.

The mission recommends consideration of:

1. the establishment of a Central Research Station, preferably in the Damascus area, with ample experimental grounds for future expansion;
2. the recruiting of foreign experts (with the help of interested international institutions) to head the proposed departments;
3. provision for training abroad of future Syrian staff; and
4. a decision on priorities for the building program in connection with the experimental program.

Extension Service

Annex E refers to the inadequacy of the present extension service in furnishing guidance to the farmers. The Ministry of Agriculture has provided technical information in the form of pamphlets and films and has also arranged training courses for guidance officers, especially in cotton cultivation and the control of pests and diseases. In this regard more can be done and the mission strongly recommends that short training courses, of the kind recommended earlier, should be offered to farmers. The distribution of more posters, particularly relating to livestock, designed to be understood even by those who cannot read, should be encouraged. Extension officers could also be instrumental in furthering the adult education program mentioned above. More guidance could be given by private organizations, such as the Chamber of Agriculture already set up in each mohafazat, and farmers' cooperatives could be instrumental in providing

APPENDIX

TABLE 1 Crop Areas, 1943–53

(Hectares)

Kind of crops	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
Wheat	503,622	570,725	751,139	810,485	843,472	788,808	987,856	992,240	1,036,693	1,167,150	1,314,422
Barley	242,564	272,650	384,128	370,799	365,040	341,626	347,910	416,445	343,556	396,621	428,010
Lentils	49,558	43,885	46,151	42,593	49,604	46,184	51,407	59,194	65,744	66,216	70,909
Maize	13,790	12,314	23,882	23,665	22,070	33,092	25,863	24,812	16,041	19,246	18,115
Sorghum	78,305	64,075	107,086	94,964	104,012	90,490	92,905	94,042	71,418	106,114	96,456
Rice	1,800	2,086	6,971	7,609	8,165	7,487	7,636	9,350	531	2,818	5,339
Cotton	15,240	16,695	17,525	19,837	19,335	23,998	25,296	77,961	217,352	189,271	127,558
Olives	48,408	59,072	75,701	78,107	79,367	78,571	79,624	80,695	79,911	82,471	85,641
Sugar beet	—	—	—	—	—	—	—	—	221	2,624	4,264
Total	953,287	1,041,502	1,412,583	1,448,059	1,491,065	1,410,256	1,618,497	1,754,739	1,831,467	2,032,531	2,150,714

SOURCE: Statistical Abstracts.

APPENDIX

TABLE 2 Crop Production, 1943–53

(Tons)

Kind of crops	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
Wheat	525,619	438,767	415,143	577,874	403,826	656,729	909,322	830,025	509,642	900,000	870,000
Barley	314,982	250,268	247,568	284,184	168,813	305,147	357,467	322,012	154,701	466,924	472,457
Lentils	35,310	23,843	27,577	19,453	39,227	33,105	54,807	26,551	30,231	50,597	62,814
Maize	28,540	17,615	23,835	27,516	28,582	37,646	39,102	35,684	21,824	22,555	22,430
Sorghum	91,370	42,315	85,731	58,866	67,586	63,392	57,290	75,725	24,171	106,114	123,692
Rice	3,650	9,767	14,506	12,000	21,569	19,099	20,031	18,005	927	5,779	16,176
Cotton fiber	3,087	3,008	4,342	4,784	5,444	9,110	13,323	35,495	62,924	58,074	46,984
Olives	72,717	11,156	158,940	45,499	80,215	102,998	91,365	18,636	90,547	32,726	48,902
Olive oil	23,107	2,026	16,791	6,242	11,116	10,252	14,436	3,580	8,516	7,241	11,071
Sugar beet	—	—	—	—	—	—	—	—	2,715	55,320	49,572
Total	1,098,382	798,765	994,433	1,036,418	826,378	1,237,478	1,557,143	1,365,713	906,198	1,705,330	1,724,098

SOURCE: Statistical Abstracts.

and financing facilities for the presentation of pertinent information to farmers, and in organizing agricultural exhibitions.

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The Chambers of Agriculture could also participate in regional programs for agricultural guidance, improvement of the care and breeding of sheep, goats and cattle, etc., and promotion of the various cottage industries. Close cooperation with the guidance department of the Ministry of Agriculture would make possible a national program to improve agricultural conditions, establish youth organizations, and stimulate growers' associations for cereals, cotton, sugar beet, tobacco, olive, fruits and other crops.

APPENDIX

TABLE 3 Nurseries and Research Stations

	Specialty	Approximate area (hectares)	Province
Damascus	horticulture	25	Damascus
Ezraa	field crops	200	Hauran
Tell Chehab	horticulture	20	Hauran
Soueida	horticulture	25	Soueida
Homs	horticulture and field crops	45	Homs
Hama	horticulture and field crops	40	Hama
Aleppo	horticulture cotton breeding	40	Aleppo
Latakia	horticulture	30	Latakia
Sin	citrus	48	Latakia
Tartous	horticulture	20	Latakia
Harem	horticulture	20	Aleppo
Madrah	horticulture olives pistachios	20	Aleppo
Deir ez Zor	mixed	27	Euphrates
Hasetche	mixed	100	Jezireh

APPENDIX

TABLE 4 Agricultural Machines, 1953

District	Tractors	Fertilizer spreaders	Harvesters		Combines		Threshers		Insecticide sprayers		Dusters	
			Animal-drawn	Tractor-drawn	Self-propelled	Tractor-drawn	Manual	Mechanical	Manual	Mechanical	Manual	Mechanical
Damascus	63	1	5	0	3	1	897	3	91	10	98	—
Homs	65	0	0	0	1	4	15	0	70	1	200	12
Hama	65[a]	0	0	2	5	0	0	0	1,500	22	265	—
Dera'a	26	5	0	1	0	2	12,003	0	10	1	210	—
Deir ez Zor	166	0	0	20	4	74	0	0	70	—	—	—
Hassetche	540	0	20	72	420	0	—	0	22	40	0	—
Aleppo	352	0	0	10	49	10	2,002	0	21	5	92	10
Latakia	53	0	2	0	0	4	21,000	0	51	5	91	6
Soueida	1	0	0	0	0	0	100	1	200	0	200	—
Total	1,331	6	27	105	482	95	36,017	4	2,035	84	1,156	28

[a] Estimate.

SOURCE: Ministry of Agriculture and other sources.

ANNEX D NOTES ON IRRIGATION

1 THE GHAB PROJECT

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The Ghab valley, part of the Orontes river valley, is about 50 kilometers long from south to north and about 10 kilometers wide. There is in the valley a marshy area of about 35,000 hectares, which cannot be cultivated at present, although it consists mostly of good alluvial soil. If drained and irrigated the reclaimed land would probably be suitable for rice, cotton, sugar beet and pulses as summer crops, and wheat, barley and winter vetch or clover during the winter. It has the great advantage of being near both the important domestic market of Aleppo and the port of Latakia, permitting ready export of products in excess of local needs.

The marsh would be drained by excavation of a basaltic sill at Kfeir that now prevents the out-flow of water, and by construction of a system of drainage canals. Included in the area to be developed for agricultural use is the Acharneh plain just upstream from the Ghab valley in a bend of the Orontes. The Orontes river is now unable to drain the plain because its bed has been raised by silting. An extensive network of irrigation canals would be constructed for the irrigation of the plain and the valley. Including the reclaimed land, the total irrigated area would be about 65,000 hectares. A reservoir with a storage capacity of about 68 million cubic meters would be constructed behind a dam near Halfaya to control the Orontes flood, and a second dam located near Rastane would provide a reservoir of about 180-265 million cubic meters for irrigation purposes. About 20,000 KW of electric power would eventually be developed in hydroelectric plants at Rastane, Maharda and Jisr ech Choghour. The last two plants, however, could be operated only during the off-season for irrigation.

Of the 65,000 hectares, 43,000 have not previously been irrigated and of these 29,000 hectares are government-owned. The project would further provide for the settlement of a large number of farmers in the latter area.

It is anticipated that completion of the entire project will require about 10 years, proceeding in overlapping stages as follows: (a) drainage of the Orontes valley; (b) the Halfaya flood control dam; (c) a part of the road system; (d) a soil improvement program; (e) about 75% of the irrigation

312 network. If an early start is made on (a), (b) and (c), then the soil im-
653 provement program and irrigation network might be initiated in 1956 and
185 1957 respectively.

The later work, mainly in the Acharneh plain, will be done after 1960. It will include drainage of the plain, construction of the Halfaya tunnels, completion of the road system, construction of the irrigation network of the Acharneh plain and Rastane dam, and the relocation of the Amir Ghajar hydro plant. The entire project could be completed by the end of 1963.

In the Ghab area, 41,680 hectares will be irrigated by a system of three main canals, one on each bank of the Orontes, branching from an intake to be constructed near Acharneh, and a third, made from the present bed of the Orontes, originating five kilometers downstream near Ammourine from an intake built in the new Orontes. This will irrigate the lands between the river and the two other main canals. The total area brought under irrigation in the Ghab, taking into account the 13,600 hectares now under partial irrigation, will not exceed 28,000 hectares until about 1963. If temporary limitations on summer irrigation are to be avoided, the work will have to proceed according to a closely coordinated schedule.

Cost

The preliminary cost estimate made in 1952 and later brought up to date at the request of the International Bank forms the basis of the following estimate, which includes engineering and supervision expenses, and which assumes that the major proposed technical revisions of the provisional plans will be adopted. On this basis the total cost of the full program is estimated at £S 130.85 million, exclusive of the cost of local and national roads, or £S 169.85 if these are included.[1] The foreign exchange requirement would be about one-third of these totals. During the term of the mission's program (to December 1960) disbursements are likely to be £S 84.25 million without roads or £S 110.25 million if roads are included. Additional funds required for indirect consequences of the project have not been included in the costs for the main project.

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[1] All figures are exclusive of any margin for contingencies.

Economic Benefits

The mission estimates that the gross value of the produce of the Ghab 312
area will be in the neighborhood of £S 63 million annually, or about £S 47 653
million after deducting the amount already produced in the area in 185
question. The production of cotton, maize, sorghum, rice and sugar beets 244
is particularly likely to have a marked impact on Syria's balance of trade. 166
It may be assumed that the output of cotton and cottonseed will in effect be added to the country's exportable surplus; the additional rice production may make Syria fully self-sufficient in that commodity; and the sugar beet production should permit a considerable import saving.

In addition to the project's contribution to an increase in national income and an improvement in the balance of payments, the settlement of farmers in the area made possible by the project will assist in relieving the present population pressure in the province of Latakia and particularly in the Alaouit mountains. In Latakia, for example, the amount of cultivated land available per person is less than 50% of the average for Syria as a whole. Settlers in the Ghab will be able to earn substantially more than the bare living they have been able to eke from the soil in the past.

Organization

The "Administrative Office of the Drainage and Irrigation Works of 647
the Ghab Lands" was created in 1951, to be attached to the Ministry of 653
Public Works until the technical work is completed. It will be responsible 185
for the design of the works, award of contracts, supervision of construction, 312
payment of expenses and for sale of the land. As parts of the project are completed, the Office will take care of the operation and maintenance of the dams and of the irrigation and drainage networks and will collect water charges. During the planning and construction period the Office should recruit and train staff to carry out the continuing operation and management of the project.

It is important that the policy, and the attendant operating and budget delegations, provide for the establishment and operation of the agricultural research centers and for a long-range educational and farm demonstration program; otherwise, it will be practically impossible to achieve acceptable land use in the area.

II PROJECTED SCHEMES

185 The Youssef Pasha project is the most important of those under con-
312 sideration, but it is still at the planning stage. No decision has been taken
653 with regard to the irrigation of the Euphrates valley as a whole.

Euphrates Valley—Youssef Pasha Dam[2]

In Syria the long narrow Euphrates valley stretches generally northwest to southeast from Djerablous at the Turkish border to Abou Kemal at the Iraqi border. It is about 450 kilometers long; its average width is about 7.5 kilometers, its maximum 16.

The soils of the valley proper are mainly alluvial, varying from silt to sandy loam and clay. With irrigation, they would be suitable for cotton, rice, sugar beet, peanuts, sorghum, etc. as summer crops, and wheat, barley and winter legumes as the main winter crops.

Irrigation of the whole Euphrates valley, on the assumption that about 85% of the land can be cultivated, would require about 170 cubic meters per second, more than can be assumed to be Syria's share of the natural flow of the Euphrates. Irrigation could probably profitably be extended to an additional area of about 130,000 hectares on the left bank in the vicinity of Raqqa. All in all, a total supply of about 226 cubic meters per second would be needed, about 75% of the maximum of 300 cubic meters per second utilizable for irrigation from the river's natural flow, which would leave only 25% for Iraq. For this reason, and because of the power potential, it was thought desirable to construct a storage dam on the Euphrates; Youssef Pasha was selected as the site. British engineering consultants recommended a concrete dam of the pierced type, 650 meters long with 52 sluice gates, and a power plant capable of producing about 45,000 KW of firm power or a yearly output of about 400 million KWH, plus about 120 million KWH of secondary power.

The consultant firm originally estimated the project cost, including a transmission line to Aleppo, at about £S 114 million; a revaluation made in 1953 raised the estimate to £S 150 million. The capacity of the reservoir behind the dam would increase the flow of the river utilizable for irriga-

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[2] Since studies of the valley have not advanced to the point of a draft project, the figures which follow are only indications of the order of magnitude of possible development.

tion by about 100 cubic meters per second; this, added to Syria's assumed 185
share of the natural flow, would provide sufficient water to irrigate the 312
valley, including the area on the left bank. 653

Until recently it was thought that the length of head canal needed to connect Youssef Pasha with the irrigable areas would, because of difficult topography, preclude construction of an economic gravity irrigation system. The mission, taking account of experts' reports, has the following comments:

About 48,000 hectares on the river's right bank, between Youssef Pasha and Halabiye gorge, could be irrigated by pumping, at a cost of about £S 50 million; but this would not be an economic method of irrigating the fertile Ressafe plain. Both the valley and about 6,000 hectares of the plain could be irrigated by constructing a gravity canal branching from Youssef Pasha, at a cost of about £S 100 million. Whether it is worthwhile to spend an additional £S 50 million to irrigate a portion of the plain is a question to be considered.

On the left bank, however, a gravity canal branching from the Euphrates at the foot of Youssef Pasha dam could reach the plateau west of Raqqa, 100,000 hectares of which are now without any possibility of being irrigated, and could provide wide-scale irrigation between Ressafe and Halabiye gorge. About 185,000 hectares of excellent soils could be irrigated, about 155,000 by gravity flow and about 30,000 by pumping from the canal.

The possibilities of such a project should be investigated. We have made provision for such a study in our allocation for Euphrates valley studies; the aerial survey and mapping of the area are allowed for elsewhere. The gravity irrigation portion should cost roughly £S 266 million, of which £S 150 million (55%) represents the cost of the head canal. The pumping facilities would cost about £S 34 million. The construction cost of the project would thus be about £S 1,700 per hectare, less than that of the Ghab project.

Halabiye Project

Halabiye gorge offers an excellent site for a diversion weir: inundations would be restricted to the gorge itself. The weir could feed two irrigation canals, one on each bank of the Euphrates, extending 250 kilometers to Abou Kemal near the Iraqi border, and these could supply gravity irriga-

185 tion to about 165,000 hectares, leaving about 50,000 to be irrigated by
332 pumps.

653 The cost of such a project would be about £S 165 million, or £S 1,000 per irrigated hectare. But although it would irrigate the fertile Meyadine area and foster development of the Abou Kemal locality, we do not recommend its construction during the next five years. Halabiye is rather far down the Syrian Euphrates valley; much of the area is already under pump irrigation; and for the limited capital expendable the Youssef Pasha site offers wider potentialities, particularly in the generation of hydroelectric power for the Aleppo area.

Khabour Valley

The Khabour valley has possibilities for projects in addition to the Tell Maghass scheme. None has been fully investigated. The soils are generally of good quality, ranging from loamy sand to medium clay, suitable for cultivation of cotton, rice, peanuts and (in the northern parts) sugar beet. All summer crops must be fully irrigated, and although rainfall is more plentiful here than in many parts of Syria, partial irrigation of winter crops is advisable in some areas.

A diversion weir could be constructed across the Khabour downstream from Ras el Ain to feed an irrigation canal on each bank. Areas of 13,300 and 7,400 hectares, on the right and left banks, respectively, could be irrigated. Rainfall in this area is adequate for winter crops and several large estate owners have installed pumps for summer cultivation.

A canal could be excavated on the right bank of the river, from Tell Maghass, but no more than 3,800 hectares would be irrigated; moreover, the soil is not very good, being sometimes excessively salted with gypsum.

About 12 kilometers downstream from Hassetche a dam could be built on the site of the ruined Roman dam of Saba Skour. Although this would permit the irrigation of about 15,000 hectares, it would unfortunately reflood the site of the previous reservoir whose fertile alluvium is now under cultivation.[8]

Sixteen kilometers downstream from Saba Skour another ruined Roman dam formerly supplied two large canals, one on each bank of the Taf river, a tributary of the Khabour. Here could be built an earth-fill dam,

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[8] The area of this site is difficult to determine owing to the flatness of the surrounding country.

14:International Bank S-5 (1954) 1955 MDI Syria MDI

about 760 meters long and 15 meters high, to feed a 14-kilometer canal on 185
the right bank, irrigating about 8,000 hectares (a longer canal might irri- 312
gate 10,000-15,000 hectares) and a shorter left-bank canal, irrigating about 153
6,000 hectares. The soil is fairly good, and the mission considers this the best project that could be started in the Khabour area. A rough cost estimate is about £S 30 million, or £S 1,500 to £S 2,000 per hectare, depending on the area irrigated.

All told, these projects would irrigate 62,000-69,000 hectares, including the 8,500 now irrigated by the left bank canal of Tell Maghass. With a duty[4] of 0.6 liters per hectare per second, about 40 cubic meters per second would be needed. Since that is the total discharge of the Khabour utilizable for irrigation, no water would remain for dry season cultivation downstream from the Taf. Accordingly, consideration has been given to storage of the Khabour flood. The downstream portion of the valley is very flat, with the exception of the right bank where it is bordered by an eroded plateau. The plateau is nearest to the river at Markada, and here a dam could be built to form a reservoir. About 800 million cubic meters could be stored behind a dam about 20 meters high; even after loss through evaporation from the large surface area, about 700 million cubic meters would remain, or about 45 cubic meters per second for a six-month irrigation season. This discharge could irrigate about 75,000 hectares out of a possible 250,000 along both banks. The sandy and loamy alluvial soils of this area would be suitable, under irrigation, for the cultivation of rice, cotton, peanuts, pulses, sorghum and maize.

The site's disadvantage is that the gentle slope of the left bank would require construction of a long levee, although there is an easy abutment for the dam on the right bank. Moreover, because the height of the dam would necessarily mean a very shallow reservoir, it would be difficult to prevent siltation. In the circumstances, the government has made no study, survey or cost estimate of the project. The mission recommends that aerial and ground surveys and mapping be undertaken to determine whether the site is satisfactory or whether an alternative must be found. As a first step, the ground survey should be limited to five or six profiles in the area contemplated for the reservoir. This should take about three days, at a cost not in excess of £S 1,000, to be charged to the study of the Euphrates valley, where most of the stored water would be utilized.

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[4] The average quantity of irrigation water which must be applied annually to the land to bring the crops to maturity.

Upper Orontes Valley

312 In the area of Homs two projects are under consideration to expand
653 cultivation in the upper Orontes valley, where cotton and sugar beet can
185 be grown as summer crops and wheat, barley and clover as winter crops: a canal branching from Homs Lake to irrigate about 3,000 hectares on the left bank of the Orontes, and one branching from a diversion weir to be constructed about 23 kilometers upstream of the south end of Homs Lake. Here the dry season flow of the Orontes is at least 10 cubic meters per second, sufficient to irrigate about 15,000 hectares on the right bank, so that the Ghab project would not be adversely affected. However, the Orontes rises in Lebanon, where a project to irrigate the Kaa area is being considered. This would reduce the available flow at the Syrian border, correspondingly reducing the irrigable area in Syria. Since the project is estimated to cost about £S 15 million, an agreement with Lebanon on the partition of the Orontes should be concluded first. We also recommend a more accurate geological survey of the Rastane reservoir area, to ascertain whether potential capacity has been overestimated. Meantime, the two projects should be deferred.

Barada Valley

Consideration has been given to regulating the flow of the Barada river, to increase the irrigated area of the Ghouta in the vicinity of Damascus where soils toward the valley bottoms are suitable for the growing of vegetables.

Two dams across the Barada river at Hameh and near Makaren, each about 50 meters high, would provide a total storage capacity of about 180 million cubic meters, thus increasing the utilizable irrigation flow from 7 to about 15 cubic meters per second and permitting dry season irrigation of about 15,000 hectares of new fertile land in the vicinity of Damascus. A hydroelectric power plant could be built at the foot of each dam to develop a total power of about 10,000 KW.[5]

Surveys and studies have not progressed to the point of a draft project. A rough cost estimate is about £S 10 million for each dam, plus not more than £S 10 million for the development of the canal system, making a total

[5] These are recommended in Annex G.

of about £S 30 million for the project (exclusive of the hydroelectric 3/12
plants), or about £S 2,000 per hectare. The mission recommends that 653
studies of the two sites be completed and that construction of the dams and 185
hydro plants begin as soon as possible.

Yarmuk Valley

Cultivation on the alluvial and sometimes very fertile soils[a] of the Mzerib area irrigated from the upper springs of the Yarmuk river could be extended by pumping water to a new area of 4,500 hectares. This second phase of the Mzerib irrigation project has been fully investigated and is ready to be started; the first phase is already in operation. The pumps would be driven by diesel motors unless and until it is decided to build a hydroelectric power plant on the Yarmuk. The cost is estimated at about £S 7 million, approximately £S 1,500 per hectare. In view of the interest in developing irrigation in the Hauran mohafazat, which is in general not well provided with water, the mission recommends that this project be started without delay.

Nahr el Kebir Valley

The Nahr el Kebir, a short river flowing from the mountains bordering on Turkey, empties into the Mediterranean in the vicinity of Latakia. It has heavy floods, but in dry season the flow is no more than 0.5 to 0.6 cubic meters per second. A regulated flow would permit irrigation of about 4,000 hectares in the vicinity of Latakia for vegetable growing, thus making a significant contribution to the general development expected with the improvement of the port.

The construction of a dam of about 60 meters is projected, with sufficient capacity to permit flood control, irrigation, power and water for the port of Latakia. Site surveys are already under way. Additional cost studies must be made, but the cost will probably be of the order of £S 15 million. Although this is rather expensive for a single project, the mission feels that in view of its multi-purpose nature and the great importance of the development of the port of Latakia, studies should promptly be completed and the project constructed during the next five years.

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[a] Suitable for cotton, with peanuts and citrus on the lighter soils.

312 *The Mission's Program*

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185 The new irrigation projects recommended by the mission, together with those under way, call for a total expenditure of £S 193 million over the next five years, to which must be added £S 3 million for maintenance and £S 1.2 million for research and demonstration, giving a grand total of £S 197.2 million. Table 1 shows the allocations among projects, together with an indication of the areas to be irrigated. Appendix Table II sets forth the irrigation schemes.

TABLE 1 Mission's Proposed Irrigation Program, 1955-60

Irrigated area							
New area	Already irrigated	Total	Projects	Functions	Total	Already spent	To be spent in the program
43.0	22.0	65.0	El Ghab	D + GI	103*	1	102
0	0	0	Euphrates valley studies		3	—	3
4.5	4.0	8.5	Tell Maghass (LB) . .	GI	12	10	2
4.0	0.5	4.5	Roudj	D + GI	5	2	3
4.5	0.5	5.0	El Senn	GI + PI	3	2	1
4.6	0	4.6	Mzerib	PI	7	0	7
10.0	10.0	20.0	El Taf	GI	30	0	30
15.0	0	15.0	Barada	HEP + GI	30	0	30
3.5	0.5	4.0	Nahr el Kebir	HEP + GI	15	0	15
89.1	37.5	126.6			208	15	193

Key: GI – Gravity Irrigation; HEP – Hydroelectric Power; LB – Left Bank; PI – Pumping Irrigation; FC – Flood Control; D – Drainage; R – Regulation

* Including £S 47 million to be spent in a later program.

NOTE: Area figures in thousand hectares; expenditure figure in million £S.

185 III PLANNING

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242 There are two stages of planning for irrigation projects. The first, the agricultural phase, entails a preliminary study of the soils and the computation of water duties. The technical phase includes planning of the civil engineering works necessary to divert, convey and distribute the water in the selected area. In the Main Report the mission has discussed the second

planning stage. Here we add a comment with respect to the so-called agricultural phase. 185
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In the past, soil studies were not very extensive, but projects were being constructed in areas already under cultivation, where the fertility of the soil was well known. Now FAO experts supervise systematic soil analyses, and the results of these studies will be very useful for the development of future projects. Insufficient investigation of the perviousness of the soil, with consequent underestimation of the water duty, has resulted in undercropping in some irrigated areas. A striking example is the Homs Lake project, where the allowance of 0.20 liters per hectare per second does not permit full utilization of the cultivable area.

The mission therefore recommends that henceforth more extensive research under the supervision of both irrigation and agricultural engineers precede fixing of the irrigation duty. Since the soils vary little along the alluvial plain of the Euphrates valley, these studies could be confined to plots in Raqqa, Deir ez Zor and Abou Kemal, on the plateau west of Raqqa and in the Resafe plain south of Abou Hareira. These experimental plots could be quite small, water being supplied by small pumping plants or even by tankers. Provision is made in the mission's proposed expenditure on studies of Euphrates valley irrigation for equipment of experimental stations.

IV WATER FEES

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The fees for the various projects, according to the revised schedule for 1954, are shown in Table 2.

TABLE 2 Annual Water Fees per Hectare

(£S)

Project	Size of holdings in hectares				
	0 to 5	5 to 15	15 to 20	20 to 50	over 50
Homs-Hama	6.25	15.40	20.40	23.30	25.80
Tell Maghass	7.50	23.75	28.75	37.50	40.00
Mzerib	7.50	21.25	26.25	32.50	35.00
Senn	7.50	17.50	22.50	27.50	30.00
Makt	2.00	3.50	4.50	6.00	7.00

312 In the mission's opinion the amortization period of 65-70 years is too
427 long; if the same standards were applied to the new projects requiring large investment Syria's economic development would be hindered. We recommend a further revision of the basis for calculating the fees so that capital cost is amortized in a period of, say, 35-40 years, provided that in no case should the fee exceed the money value of the benefits to the landowner or cultivator. Benefits should be conservatively calculated to allow for variations in prices and yields of crops.

It also appears that although small holders might appropriately be charged a lower rate, the degree of progression in the existing water fees may be excessive.

APPENDIX

311 TABLE I River Flow and Government's Estimate
312 of Irrigated and Irrigable Areas

Origin of utilized water	Annual flow (million cubic meters)	Irrigated area (thousand hectares)	Irrigable area (thousand hectares)
Euphrates	25,000	125.0	340.0
Khabour	1,500	20.0	90.0
Orontes	500	35.0	55.0
Yarmuk	450	3.0	7.5
Barada-Awadj	485	15.0	25.0
Kowek	75	12.0	15.0
Afrin	250	2.5	7.5
Sadjour	90	2.5	3.0
Baligh	150	8.5	10.0
Jagh-Jagh	90	8.0	10.0
Senn	360	0.5	5.0
Nahr el Kebir	150	0.5	2.0
Total	29,100[a]	232.5	570.0
Underground water		75.0	100.0
Miscellaneous		67.5	80.0
Gross total		375.0[b]	750.0[b]

[a] To which should be added approximately 500 million cubic meters from other small rivers and streams.

[b] Underestimated, in the mission's opinion.

SOURCE: Directorate of Irrigation.

The low fee for the Makt project is justified by the restricted nature of 312 the facilities provided, but the fees assessed for the Tell Maghass, Mzerib 427 and Senn projects appear low in proportion to the money value of the benefits to the landowners or cultivators, and are considerably less than the cost of pumping irrigation provided by private owners. Accordingly, we have recommended review of these fees.

APPENDIX

TABLE II Irrigation Schemes Under Construction or Projected

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Irrigated area (thousand hectares)					Expenditures (million £S)		
New area	Already irrigated	Total	Location	Functions	Already spent	To be spent	Total
43.0	22.0	65.0	El Ghab	D + GI	1	170	171*
252.0	152.0	404.0	Yousef Pasha		—	150	150
140.0	45.0	185.0	Raqqa Plateau	GI + PI	—	300	300
85.0	80.0	165.0	Halabiye	GI	—	160	160
27.0	27.0	54.0	Resafe	GI or PI	—	100	100
4.0	0.5	4.5	Roudj	D + GI	2	3	5
4.6	2.2	6.8	Mzerib	GI + PI	2	7	9
15.6	5.1	20.7	Ras el Ain	GI	—	30	30
4.5	4.0	8.5	Tell Maghass (LB)	GI	10	2	12
2.8	1.0	3.8	Tell Maghass (RB)	GI	—	6	6
8.0	7.2	15.2	Saba Skour	GI	—	25	25
10.0	10.0	20.0	El Taf	GI	—	30	30
53.0	22.0	75.0	Markada	GI	—	100	100
8.0	7.0	15.0	Upstream Homs Lake	GI	—	15	15
3.0	—	3.0	Homs Lake (LB)	GI	—	3	3
4.5	0.5	5.0	El Senn	GI + PI	2	2	4
3.5	0.5	4.0	Nahr el Kebir	HEP + GI	—	15	15
15.0	—	15.0	Barada	HEP + GI	—	30	30
431.5	235.0	665.5			17	1,148	1,165

Key:
GI – Gravity Irrigation
HEP – Hydroelectric Power
RB – Right Bank
PI – Pumping Irrigation
FC – Flood Control
LB – Left Bank
D – Drainage
R – Regulation

* Including local and national roads.

NOTE: The figures given above are only rough estimates. Accurate figures are not available because most of these irrigation schemes have not yet reached the draft stage. The purpose of this Table is to give an idea of the order of magnitude of the investment, extending beyond the scope of the mission's program, to be made for the development of irrigation in Syria.

ANNEX E *NOTES ON AGRICULTURAL INSTITUTIONS*

I AGRICULTURAL BANK OF SYRIA

General

453 652 Of the estimated £S 100 million–£S 120 million of agricultural credit outstanding in 1953, some 10-15% was furnished by the private commercial banks (including the Commercial Department of the BSL), probably 50% by moneylenders and merchants, and somewhat more than 35% by the Agricultural Bank of Syria. In view of its future role the mission adds the following note on the ABS. The other sources of credit are dealt with in the Main Report.

652 654 The Agricultural Bank operates throughout Syria. In addition to its central Damascus office it has three main branches, in Aleppo, Latakia and Deir ez Zor, and 27 sub-branches in the more important towns. The facilities, however, are not adequate to channel an adequate volume of loans down to the level of the small farmer.

The ABS is a governmental institution, administered by a General Director and a board of nine directors, six representing respectively the Ministries of Finance, Agriculture and National Economy, and the Chambers of Agriculture, Industry and Commerce, and three selected by the Council of Ministers. Since 1950 the functions of the ABS have been considerably broadened. In addition to making loans to farmers, it now performs such extra-banking functions as purchasing and selling seeds, insecticides, and machinery, purchasing land and helping small farmers develop improved farm practices, and importing agricultural equipment. At present, it does not make loans directly to cooperatives. Loans have been granted to individual members with the joint guarantee of other members rather than to a cooperative association itself (the Bank Act, as redrafted (see below), would empower the ABS to lend directly to cooperatives). The limitations on extending loans for agricultural purposes are not to be found so much in the functions of the Bank as in the provisions dealing with the conditions under which loans may be granted. A principal objective should be the removal of burdensome restrictions and the substitution of desirable and sound loan policies.

Resources for Lending

The resources of the ABS available for lending are derived from the capital and reserve of the Bank, borrowings and, to a minor extent, deposits. In Table 1 these resources are shown for the period 1947-1953. The capital was derived from the 4% share of the agricultural production tax turned over to ABS until 1950, and the £S 10.2 million which the government gave the Bank on June 30, 1950. The latter amount represented the proceeds of a loan from the BSL, which the government undertook to repay in lieu of turning over a part of the agricultural production tax to the ABS. This transaction, together with earnings, increased the capital and reserve of the Bank to £S 22 million by 1952.

TABLE 1 Sources of Funds Available to the Agricultural Bank of Syria, 1947–1953

(Million £S)[a]

End of financial year[b]	Capital and reserve	Borrowing from			Deposits	Total
		Govt.	MIRA	BSL		
1947	9.0	3.9	2.9	—	.1	15.9
1948	9.5	2.9	2.3	—	.1	14.8
1949	10.2	2.3	2.8	—	.1	15.4
1950–1951	10.9	5.6	2.3	1.6	.2	20.6
1951–1952	22.0	3.2	—	8.6	.7	34.5
1953	22.1	10.7	1.7	5.9	.8	41.2

[a] The figures in this and the following tables which deal with the operations of ABS are from official records of the Bank.

[b] Calendar years except for two 18-months periods, viz: January 1, 1950–June 30, 1951, and July 1, 1951–December 31, 1952.

The loans from the government agency MIRA (now the Cereals Office) and from the BSL were for the specific purposes indicated in Table 2. For instance, in 1949 seed wheat was secured by MIRA and in 1950 and 1952 agricultural machinery and cotton dust were handled for this agency. In the case of farm machinery the ABS by decree was authorized to take over machinery that MIRA was unable to sell at auction, the value of the machinery being considered an interest-free loan. In its transactions with MIRA the ABS acted as agent, receiving a commission of 4%.

652 TABLE 2 Loans by Agricultural Bank for Special Programs
654 Authorized by Government, 1950-53

	1950–1951		1951–1952		1953	
	Number of loans	Value (thousand £S)	Number of loans	Value (thousand £S)	Number of loans	Value (thousand £S)
Machinery loans (MIRA)	809	3,710	42	175	4	6
Relief to olive growers	2,757	1,183	3,067	508	—	—
Cotton seed advance	—	—	—	—	233	131
Combating cotton worm	—	—	5,923	2,745	1,115	512
Seasonal loans	—	—	1,394	1,150	6,440	6,123
Relief to drought-stricken areas in South	—	—	13,977	5,287	—	—
Machinery loans (Agricultural Bank)[a]	—	—	670	5,213	124	544

[a] These loans are for machinery purchased and sold directly by ABS in contrast to the MIRA machinery loans shown above.

The short-term or seasonal loans from BSL are at 2½% interest, the amount outstanding at the end of 1953 being £S 5.9 million. The BSL functions as a central bank in its transactions with the ABS, there being no national central bank in Syria at the present time.

Machinery loans have been of most aid to large farmers, while the seed, insecticide and relief loans have been helpful to all types of farmers.

Lending Practices and Policies

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The Agricultural Bank may make loans against the security of a real estate mortgage, a joint guarantee of several individuals, a chattel mortgage on crops, Treasury bonds, gold and certain types of commercial paper. In practice, however, loans have been advanced only on real estate mortgages and joint guarantees. This has meant a restricted loan policy. For instance, the ABS has not been in a position to make direct loans on crops or chattels, to finance cooperatives effectively, to extend credit to new land settlers, or adequately to meet the credit needs of the small farmer.

Table 3 shows the loans of the ABS by type of security for the period 1947-1953. It reveals no marked trend in the use of the mortgage or the guarantee as security, except that recently the number of joint guarantee loans has increased. These outnumber the real estate mortgages, although the latter are still the predominant form of security from the point of view of amount involved. Emphasis on formal security for loans, rather than on supervision of loans and their devotion to purposes that would improve the economic position and creditworthiness of the farmer, militates against the small owner and tenant farmer, who cannot provide adequate security. This emphasis is inevitable as long as there is no system of supervised credit.

TABLE 3 Loans Made by the Agricultural Bank of Syria According to Type of Security, 1947–1953

Year	Real estate mortgage		Joint guarantee	
	Number	Value (thousand £S)	Number	Value (thousand £S)
1947	4,484	3,684	9,000	2,124
1948	2,240	1,664	2,556	473
1949	1,982	1,577	2,216	350
1950–51[a]	5,057	3,980	7,960	1,347
1951–52[a]	7,213	6,398	10,344	1,880
1953	4,922	4,149	8,541	1,483

[a] 18-month periods.

The record of collection on loans is excellent; foreclosures are rare. From 1947-1953, the net profit of the Bank increased from £S 227,986 to £S 1,239,071, and for 1953 it was slightly more than 6% on the outstanding capital and reserve.

The loans of the ABS outstanding at the end of the fiscal year from 1947 to 1953 are shown in Table 4. Long-term loans, from 3 to 15 years, increased by about £S 7 million during this period. These loans were made for land purchases and improvements, building of dwellings and purchase of farm machinery and livestock. Loans for the latter purpose have been provided for a period not exceeding five years and account for a large part of the increase.

Farm machinery loans also account for a considerable increase in medium-term loans, from one to three years. Short-term or seasonal loans, 65> up to 12 months, are for seeds, tools, fertilizer and working funds. It was not until after 1950 that the ABS undertook to extend this type of credit.

It is to the small- and medium-sized farmer with good security that most of the loans are granted. No one borrower may receive more than £S 7,500, and for loans in excess of £S 3,000 it is necessary to secure approval from the main office at Damascus—an involved and time-consuming procedure. This often deters large landowners from applying for loans.

ABS credit for the sharecropper and the very small landowner with only moderate security is also difficult. Loans may be made on only 60% of the

TABLE 4 Kind, Number and Value of Agricultural Bank Loans Outstanding at End of Selected Financial Years

Kind of loans	1947	1949	1[illegible]1	1953
Long-term loans				
Number outstanding	38,642	39,613	21,778	47,642
Amount of loans outstanding	13,378	13,773	12,435	20,453
Medium-term loans				
Number outstanding	16,680	17,847	24,135	35,374
Amount of loans outstanding	3,092	2,931	3,717	4,971
Short-term loans				
Number outstanding	—	—	21,496	29,413
Amount of loans outstanding	—	—	7,630	16,754
All loans				
Number outstanding	55,322	57,460	67,409	112,429
Amount of loans outstanding	16,470	16,704	23,782	42,178

NOTE: All value figures in thousand £S.

value of land (40% if planted to trees). This class of potential borrower cannot afford the loss of time and the cost of spending several days in the city to negotiate a small loan on the low value of his property. It is much more convenient to turn to the moneylender for credit.

Loans to cooperatives are made only with the guarantee of individual members and may not exceed £S 30,000. Such loans as have been granted are for altogether too short a period to be of effective use. However, the ABS hopes to grant much more credit to cooperatives and to enable them over a period of time to take over the bulk of the seasonal and medium-term loans to farmers. It is recognized, however, that cooperatives will develop only slowly.

Effectiveness of Operations

One of the outstanding weaknesses of the ABS is that an adequate volume of credit is not getting down to the level of the small- and medium-sized farm operators who could profit most by the wise use of credit. Although the difficulties arise in part from restrictions on lending practices and policies, it is also true that the ABS is not set up to service this group of farmers effectively. Remedial action lies largely in a revitalization of the Bank's charter, the active support of farmers' cooperatives and a program of supervised agricultural credit. This calls for an organization closer to the village level.

More of the funds of the ABS should be used for loans which would increase agricultural production and strengthen the position of the small farmer. But loans must be kept on a sound basis and the rate of expansion should not impair this policy. Seasonal or short-term working capital resulting in increasing farm income is a highly desirable phase of a program of supervised agricultural credit. Under the present system the advisability of the plan for using the loan is left to the judgment of the farmer. Under a system of supervised credit, the loan would be granted in relation to a farm and home plan developed jointly with the farmer. The prospect of repayment would be greater than it is when loans are granted merely on collateral or collective guarantee.

The ABS practice of engaging in the purchase and sale of machinery, seed and insecticides should be judged in the light of the situation in Syria. The arguments advanced in favor of these transactions are that private machinery dealers have a very high price mark-up, while the ABS's is much less, and that the practice has insured better seeds and adequate insecticides. On the other hand, these are services which, over a period of time, might better be taken over by private enterprise. The ABS might then concentrate on its main function—the making, servicing and collection of loans.

Recommendations

The mission adds the following to the observations and recommendations in the Main Report.

The basic Agricultural Bank Act should be re-enacted along the lines proposed by the Committee to Redraft the Bank Act. As redrafted, the Act

652 stresses the establishment of credit cooperative societies or associations, the granting of loans directly through cooperatives, the making of loans against warehouse receipts, the extension of more seasonal loans for productive purposes, and the making of intermediate- and long-term loans for land reclamation and development. Loans could be made without mortgage or joint guarantee security. Another significant proposal is that the Board of Management of the ABS would enjoy, within a legal framework far less restrictive than the present act, the "widest authority in the management of the bank." For instance, the Board would have wide powers in issuing its own by-laws. The mission recommends that the by-laws include procedures for a program of supervised agricultural credit and for the fostering of cooperative agricultural credit. The operational requirements for a sound and dynamic credit program must be clearly set forth, otherwise the hazards of losses would be great.

Loans to a farmer should be based on the size of his farm, the type of farming practices he follows, his personal characteristics and the degree of farm planning as reflected in the income of the farm. In addition, loans should be extended at the appropriate time and with due consideration to outstanding indebtedness. To maintain the farmers' income-producing ability credit must be available when needed, as at the appropriate time during the planting season, to meet recurring needs during the growing season, and to provide emergency funds for unforeseen severe attacks of insects, bad harvests, and other similar emergencies. In the case of supervised loans the time required to prepare farm plans, and to submit loan applications and secure their approval will determine the period that must be devoted to advance planning, so that farmers will receive their loans on time and a schedule of advances may be set up to meet the farmers' needs. For supervised loans a schedule should be prepared of both the amount and time of the receipt of income. The time of repayment should then be set in relation to this schedule. If for good reasons loans become delinquent the repayment schedule may be modified.

With the exception of emergency loans the making of loans to farmers with outstanding indebtedness may result in pyramiding the debt structure on an unsound basis. However, it is sound policy to assure or take over a reasonable amount of outstanding indebtedness, particularly in the case of members of a cooperative association. Not to refund a reasonable amount of old indebtedness of a borrower may well place him at the mercy of moneylenders, and thus undermine his creditworthiness. But the refunding of old debts in relation to a new loan must be carefully considered. It 652 should be obvious that supervision may be necessary throughout the period of the loan. Furthermore, it may be desirable to extend the repayment of certain old debts over a period of years.

We have emphasized in the Main Report that legislation should be considered to provide for the relief of old agricultural indebtedness. Many capable farmers cannot be made creditworthy under any system of credit until they are in a position to make a new start in life.

Loans should be made in kind only when it is necessary to insure their use for a specific purpose and when the government has found it necessary to monopolize the supply of certain farmers' requisites, e.g., cottonseed. Such loans must be in first-rate products.

In order to carry out the type of credit program envisaged by the government, the ABS will need to bring its services to the farmer. Thus the regional banks should have a number of field credit offices from which, in cooperation with the regional banks, loans will be made, serviced and collected. Part of this task might well be done by opening up temporary field offices in larger villages before the planting season and again during and following the harvest period.

Ultimately the ABS and the village cooperatives should be owned and 652
operated by farmers. These institutions must therefore accumulate their 474
own capital if they are not to remain merely channels for the extension of government credit to farmers. The ABS itself could do much to promote additional savings through credit cooperatives. Over a period of years the development of practices of thrift will lead to substantial capital accumulation for the use of farmers. The capital of a cooperative credit society should be invested in capital expansion or deposited in the ABS. When a credit society is a part of a multi-purpose cooperative, it can use any earnings or savings to best advantage within its own organization. It may be desirable, and in fact necessary, for the ABS to establish some local credit societies as an arm of its organization in the extension of loans to farmers. In the latter case, savings and earnings for use of members would presumably be under the control of the ABS, but should be, insofar as possible, administered by an independent organization.

It is also desirable that cooperative associations retain their earnings and investments by restrictions on declarations of dividends, and by not permitting ready refunding of membership stock. The 2% profit made by cooperatives on loans would be another source of capital and credit.

II COOPERATIVES

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Organization

A Syrian statute prescribes the manner of organizing cooperatives; by-laws are likewise prescribed. Both are rather involved and somewhat confusing. Without analyzing these laws in detail, we may point out certain of their defects. For example, in regard to reserves there are a number of lengthy provisions dealing with "ordinary reserve", "obligatory reserve" and "exceptional reserve" in terms of percentages. Most technicians would have considerable difficulty construing them and they are impossible for farmers to comprehend. The drawn-out procedure to be followed in the registration of a cooperative appears to indicate some government distrust of cooperative organization. The basic cooperative laws should make it relatively simple for farmers to follow required procedure and to proceed on a sound basis.

In the Main Report the mission has recommended a revision of the legislation pertaining to cooperatives. There is much valuable and useful experience to draw upon from the many countries which have had a considerable measure of success with cooperative societies. The Arab League is giving attention to this matter and is now in process of setting up a permanent training center for cooperative work of the member states. The discussions for the implementation of such a program are promising. The FAO has also sponsored a training program in cooperatives, dealing in part with legislative matters.

In Syria, a cooperative may be organized by seven or more persons to promote mutual interest in marketing agricultural products, extending credit, encouraging savings, purchasing domestic and farm furnishings, and a host of similar purposes. Funds are provided through capital share subscription of members, payment of membership fees, and from loans. Each member has one vote. A cooperative may be organized either on the principle of limited liability or unlimited liability. Cooperatives are registered in the Division of Cooperatives and Extension Service of the Ministry of Agriculture. This division is intended to supervise the activities of cooperatives but has not been able to do so because it lacks the personnel and an adequate organizational framework for serving and promoting cooperative organizations.

In organizing a cooperative it is necessary to determine carefully the function to be performed. The greater the number of functions which the cooperative is to perform, the more complex becomes the task of management and the more difficult the financing and accounting. These problems must be met and not be permitted to hinder the successful development of cooperatives.

In the Syrian villages it would seem best to organize cooperatives around a single function when such a function is an end in itself, as for example providing a pump for irrigation. However, needed services are often interrelated, as is the situation when agricultural production credit is an integral part of a cooperative marketing and purchasing program. Several functions should be undertaken if: (1) they do not conflict; (2) they do not make the operations too complex; (3) the accounts of each can be kept quite separate; (4) the members understand clearly what the association or society is doing; and (5) the functions provide a service to most of the members. Under these conditions the multi-purpose cooperative is a superior type of organization since it can coordinate in a single efficient management unit such allied functions as the purchase and sale of farm supplies, marketing of farm products, granting of credit and the performance of other special services.

The recent experience of the Near East Foundation in organizing cooperatives in Syria indicates that farmers are very responsive to pilot cooperative organization when the aims and methods are properly explained to them. In one case, for instance, considerable enthusiasm was engendered by the cooperative sinking of an irrigation well which increased production and quadrupled the value of the land. The Foundation has found that such demonstrations, when preceded by preliminary discussions of the elementary principles of cooperation, caught the farmers' imagination. Under these circumstances, farmers respond readily and show by their willingness to subscribe shares a strong belief and confidence in cooperative association.

Clearly such projects offer a nucleus for expansion. They also have shown that: (1) farmers are interested in joining together to do things for their mutual benefit; (2) organization of a cooperative involves a great deal of educational effort; (3) regular assistance and guidance must be provided; (4) capital is necessary; and (5) the job cannot be done without guidance by the Agricultural Bank and the Division of Cooperatives.

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III RECOMMENDED ORGANIZATIONAL FRAMEWORK FOR A SUPERVISED AGRICULTURAL CREDIT AND RURAL DEVELOPMENT PROGRAM

The organization of the agricultural extension service should be such as to permit its ultimate development into the central agricultural agency through which educational activities relative to improved techniques in agriculture and rural living are channeled. In its particular sphere of activity the Extension Service should coordinate the findings of all departments within the Ministry of Agriculture. It should become eventually one of the three or four principal departments of the Ministry of Agriculture, separated from the research control or administrative work of the Ministry. For the present, however, it would seem desirable to retain the Division of Cooperatives and the Extension Service on the joint basis. The Extension Service should not have regulatory or police power functions, for this would involve education in the pleading of special causes or the enforcement of sanctions. Education and extension rather involve training on the basis of voluntary participation by farmers. At the national and regional level the Service should be staffed adequately to serve the village communities. It is recommended that an additional amount of £S 250,000 be provided during the next five years for personnel, travel and general operating expenses of the Extension Service.

There is a shortage of trained agriculturists. Steps should be taken to improve the teaching and research facilities of the four intermediate agricultural schools at Aleppo, Deir ez Zor, Latakia and Selemiye, and also at the secondary agricultural school at Kharabo. The extension worker needs a broad but well-grounded training in the technical aspects of agriculture, a good knowledge of social and economic problems in rural communities, and special training in extension methods and the philosophy underlying good extension work. In addition to pre-service training centers, it is essential that in-service and refresher courses be provided for extension personnel. The Food and Agriculture Organization should be requested to assist in the development of a training center for extension workers. This activity might well be supplemented by a cooperative arrangement between the Ministry of Agriculture and the Near East Foundation for the training of village community workers. The work of this Foundation provides a useful example of an effective method of reaching the small farmer. Scholarships

for study abroad should be a necessary part of the training of the senior 654
staff. 242

The findings of research, experimentation and the experiences of farmers give support to extension programs. Much information is already available and should be transmitted to farmers, but more systematic and better coordinated practical research should be the aim in the future. The two functions of research and extension should be coordinated within the Ministry of Agriculture so that each performs its specialized service, in a manner that supplements and complements the other. Research must focus on the key needs and concerns of farmers and anticipate future problems. For instance, one of the emerging needs is to know more about good crop rotation practices, including better use of land now fallow.

Chart 1 indicates the mission's conception of a desirable organizational framework for the agricultural credit and rural development program it has recommended.

IV LAND TENURE

In Syria, the landowner group is composed of full owners, part owners, 423
debt-encumbered owners, and owners with undetermined title. Owners 421
range from operators of large commercial farms to small subsistence farmers. The tenant group is composed of farmers who rent or make some payment for the use of land, and comprises most of the farmers who live on the land and cultivate it. Most of the large owners do not live permanently on their land but operate through some type of sharecropper system. There are very few cash tenants. The sharecropper usually works under the direction of the landlord or his agent and is dependent upon him for farm supplies and operating capital. Often he contributes toward crop production little but his own and his family's labor. His status is more nearly that of a laborer than of a tenant. A true tenant has rights of occupancy and land use that are protected by law, while the sharecropper is very much subject to the will of the landlord.

In general, it appears that in the rainfed areas the sharecropper receives about 30% of the crop if he provides only his labor, and around 70% if he provides the working capital. In areas sparsely settled he receives a slightly higher percentage of the crop, and in heavily populated areas he may receive somewhat less. On the irrigated lands the sharecropper receives in

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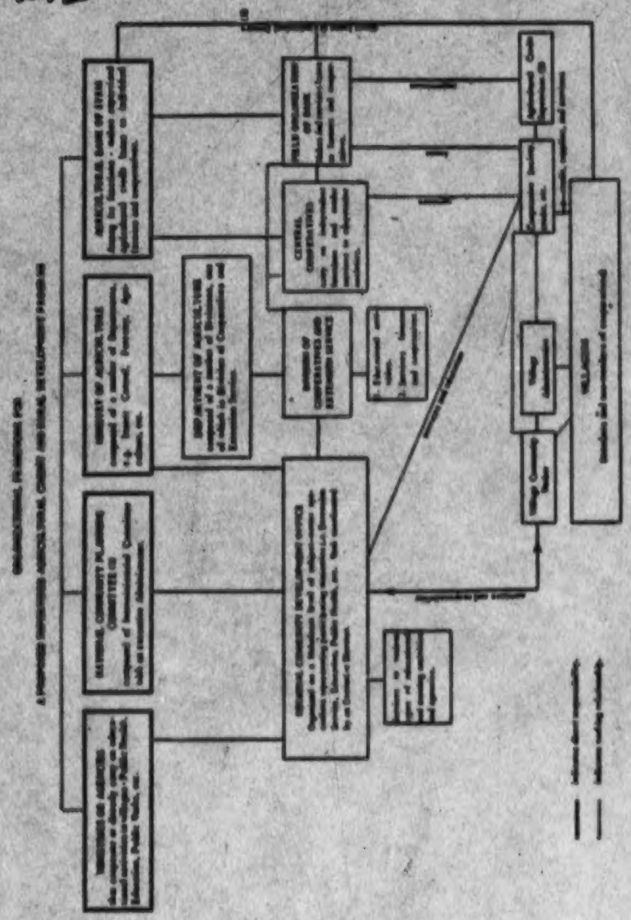

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423 the neighborhood of 20-30% of the crop if he furnishes only his labor, and
427 about one-half of the crop if he provides his own working capital. The distribution of the returns on privately irrigated lands is, however, often much affected by the person who controls the pump.

Land Ownership

423 As in other countries of the Middle East considerable uncertainty attaches to ownership rights in land. By no means all of the cultivated or cultivable land is listed in the official property registers, and titles which are registered are often imprecise or conflicting in stating the boundaries or the area. The validity of many land grants made in the past is also subject to challenge.

[471] By far the greater part of the land unquestionably belongs to the state, if only because most of the land is uncultivable and therefore unutilized and all unoccupied or "dead land" has always in theory belonged to the state. State land has in the past fallen into two categories: "state domain" proper, which is officially registered as belonging to the state, and unoccupied or "dead land" (*mawat*) to which no title exists.

Land other than state domain is held under various traditional forms of ownership including *mulk, waqf, matroukah, amiri* and *mucha'a. Mulk* is the only form of absolute ownership and covers only a small proportion of state land. *Waqf* is property held in the form of a religious trust and is not particularly significant as far as agricultural land is concerned. *Matroukah* is land dedicated to public purposes and also has no significance for agriculture. Most land is *amiri,* a type of hereditary leasehold. Ultimate ownership in theory rests with the state which can legally recover *amiri* land if it is not cultivated for five years in succession. The latter right is, however, never exercised, and *amiri* land can be said to be in virtually unqualified private ownership. *Mucha'a* is village land held in common but cultivated in individual family plots periodically reallotted among the holders. This form of tenure has predominated in certain parts of the country such as the Hauran and obviously gives little or no incentive to permanent improvement of the land.

Recognizing that clear and undisputed private landownership is a prerequisite to land improvement, the government has been seeking over many years to terminate the *mucha'a* form of tenure and end the confusion in land titles. *Mucha'a* land is being gradually distributed and converted to

423 private ownership, and a cadastral survey has been proceeding for three decades to delimit and determine titles to land. Inadequate funds, insufficient trained personnel and cumbersome procedures have made progress very slow. For instance, the cadastral survey, which is apparently supposed to cover about 7.82 million hectares, had been completed for only 3.54 million acres by the end of 1952. The work was farthest advanced in the provinces of Aleppo, Hama and Homs and least advanced in those of Hassetche, Deir ez Zor, Dera'a and Soueida. At the end of 1952 the government authorized an expedited 27-months' survey for the mohafazat of Hassetche. For the first time, aerial photography is being used to carry out the program and a soil survey is being conducted at the same time. Even here, however, the work, originally scheduled to be completed by the spring of 1955, has fallen behind schedule and is now unlikely to be finished much before the end of 1956.

Size of Holdings

An official estimate apparently made for Sir Alexander Gibb & Partners, who made a developmental study of Syria in 1946-47, indicated that of about 6.1 million hectares of privately held land 38% was in holdings of over 100 hectares and 19% in holdings of 10 hectares and less. In the last analysis only the cadastral survey is likely to give more accurate data on the distribution of land. For the 2.2 million hectares of privately owned land covered by the survey up to the end of 1952, the distribution by size of holdings was as follows:

Classification of holdings (hectares)	Percent of area
Small holdings	
Less than 1	1
2–5	5
5–10	7
Total	13
Medium holdings	
10–25	17
25–50	11
50–100	10
Total	38

Large holdings	
100–500	24
500–1,000	9
Over 1,000	16
Total	49
Total all groups	100%

This would indicate that 49% of the land area is in holdings of over 100 hectares and 16% in holdings of over 1,000 hectares. These percentages may well be lower when the survey in the mohafazats of Dera'a and Soueida are completed, for these are areas of predominantly small holdings. Large estates are found particularly in the mohafazats of Hama, Homs, Aleppo and Hassetche. Some holdings are known to be in excess of 100,000 hectares. Unfortunately the mission was unable to obtain data on the number of holdings in each of the classifications listed in the above table.

Land Tenure Policy

The objectives of a tenure improvement program in Syria in respect to private lands should be: (1) to prevent the further growth of large holdings and promote generally a wider distribution of ownership, while avoiding at the same time excessive fragmentation of already small holdings; (2) to secure a more equitable distribution of farm income among those associated in the cultivation of the land, including the landlord, the cultivator-tenant, the pump-owner and others who have acquired rights in or power over the returns from land; (3) to promote greater security of tenure for the tenant; and (4) to enable the small owner and tenant to become more prosperous and independent by improved methods of production and the introduction of needed economic institutional reforms.

On public domain lands, the principal objectives should be (1) to establish the extent of state domain, particularly of cultivable lands; (2) to reserve state domain suitable for arable farming for gradual distribution to farmer-operators as and when the need arises; (3) in the meanwhile, to permit the exploitation of state domain under medium-term lease arrangements but at adequate rentals; and (4) to take steps to ensure good public land management on state domain.

In the process of settling state lands suitable for development, an im-

423 portant step accompanying or following the survey should be classification of the land to determine: (1) the inherent land characteristics; (2) present use; (3) use capability; and (4) recommended use by size of operating unit. This information is necessary to carry out a good settlement policy with respect to land use, involving primarily the size of units to be established and recommendations for cropping and land practices to be followed. A sound settlement program should settle good farmers on good land under conditions that afford a reasonable opportunity for success. This is most important in the distribution of state domain land.

It is also desirable that the price to the settler for the land, buildings and the improvements be in line with the productive capacity of the land, and that payments on this indebtedness be related to the time when farm income may be realized. Any repayment made during the first few years will necessarily be small, and might not begin before the third year of settlement. The total charge against a new land settler should not exceed 2½-3½ times the gross annual returns from land. This is equivalent to the payment of an annual rental of 20-25% of the crop produced for a period of 10 to 15 years. As a prospective landowner a settler should be required to maintain and improve his farm, pay taxes, provide for living expenses and enjoy the inducement of an additional income to enable him and his family to improve their standard of living.

The period of repayment should not exceed 10-15 years. A longer period is more hazardous, discouraging, and does not afford proper incentive to land ownership. A 10-year period is preferable.

ANNEX F *INDUSTRY*

#33

1 PRINCIPAL INDUSTRIES

The structure of Syrian industry as of the end of 1953 is illustrated by Table 1, based on official estimates for 1953.

TABLE 1 Syrian Manufacturing Industry, 1953

Industrial groups	Number of establishments (totally or partly mechanized)	Capital invested (million £S)	Annual production (all figures in thousands)
Cotton ginning	122	10	50 (tons)
Spinning and weaving	586	40	26 (tons)[a]
Socks and stockings	69	5	1,248 (dozens)
Vegetable oil[b]	250	25	10 (tons)
Soap	59	10	18 (tons)
Sugar refining	1	12	23 (tons)
Canned goods	3	4	4 (tons)
Jam and candy	139	10	5 (tons)
Cement	2	15	224 (tons)
Glass	11	10	900 (square meters)
Rubber boots and shoes	3	—	200 (pairs)
Matches	7	2	340 (gross)
Tobacco	3	—	3 (tons)

[a] Includes both yarn and cloth production.

[b] Exclusive of olive oil.

NOTE: The figures in this Table are only illustrative of the general structure of the manufacturing industry; as shown by the text, the mission's investigations have in certain respects revealed different data.

SOURCE: Le Commerce du Levant, June 6, 1954.

Although the Table does not give a complete picture, it shows the main industrial sectors in which modern production methods are being applied. In appraising the present stage of industrial development, however, it should be realized that a large section of industry is still in the handicraft stage or has only partially emerged from it. In the case of textiles, clothing, shoes, furniture, metal ware and many other goods, this section of industry

433 is still responsible for an important part of, and in some instances for the entire, production. Yet the use of power-driven machines is steadily growing and it is not unusual to find an expensive modern machine in a workshop with only five or six employees. This development will probably be accelerated as more and cheaper electrical power becomes available, but it is equally likely that some Syrian industry, although to a steadily decreasing extent, will remain in the handicraft stage for many years to come. This applies particularly to village industries (dairy products, dried fruits, rugs, etc.), which employ a considerable percentage of those who gain a living from some industrial occupation.[1]

Cotton Ginning

248 Ginning is a relatively new industry which sprang up after local cotton cultivation became prominent, and by 1953 was employing about 4,000 workers. The sharp rise in cotton production after World War II led to a rapid expansion of ginning capacity and, in 1950, to the introduction of some saw gins. There are now over 100 establishments, mostly in Aleppo, which concentrate on cotton ginning during the season commencing in September and ending in April or May.

According to the latest available estimates Syria has a total of about 1,750 roller gins and 64 saw gins with a lint capacity of 45-48 metric tons per hour. A report issued in September 1953 states that of the 1952-53 cotton crop of 176,000 tons of raw cotton, over 90% was roller-ginned and that saw gins were only used in the lower grades. Up to 10,000 tons of ginned cotton were used in Syrian textile mills; the remainder (about 50,000 tons) was exported.

The importation of cotton ginning machinery was prohibited by law in 1952; it is generally agreed that present ginning capacity is sufficient to deal with any anticipated increase in the crop for some time to come.

Textiles

288 *Spinning and weaving.* The manufacture of textiles is Syria's principal industry. Six spinning and weaving factories now produce cotton and

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[1] According to a study dated February 24, 1954 by Dr. Abdel Monthleb Boukari, "L'Artisanat Rural Traditionnel," 18% of the Syrian population is engaged in some kind of manufacturing industry of which 9.8% is in town industries and 8.2% in village industries. The mission was not in a position to check these figures.

rayon yarn and cloth, two in Damascus and four in Aleppo, employing 288 nearly 6,000 workers. Between 90,000 and 100,000 spindles producing cotton and rayon yarn and about 1,400 mechanical looms are in operation in these factories or were in the process of being installed at the time of the mission's visit; it has been estimated that in 1953 between 15-20% of the total number of spindles was engaged in the spinning of rayon. The total yarn production in that year was about 8,000 tons, of which 6,000 was cotton yarn. The factories are well built and most of the machinery is less than 10 years old. The older or less efficient machinery is being replaced and there is a gradual conversion to fully automatic looms.

Syrian cotton has now largely replaced imported raw material; on the other hand, imports of fiber and yarn for making rayon cloth and knitted garments have increased considerably during the past two years. Imports of fiber rose from 1,300 tons in 1951 to nearly 3,000 in 1953. Imports of rayon yarn increased during the same period from 4,160 tons to 6,572 tons. Practically all the cotton yarn produced in Syria is used locally. About 400 tons of cotton cloth, 400 tons of rayon yarn and 1,800 tons of silk and artificial silk cloth were exported in 1953.

Three factories are engaged in the spinning (one in Aleppo with about 3,000 spindles) or weaving (two in Damascus with a total of 38 looms) of woolen yarns and woolen and worsted cloth. While some of the machinery is old, it is in good condition and the buildings are well constructed. In 1953 about 160 workers were employed in these factories. Although Syria exports considerable quantities of raw wool, its modern wool manufacturing industry is based entirely on imported materials.

Four small factories in Damascus produce silk and rayon brocades and brocades with metallic threads on mechanical looms. Brocades are also woven on an unknown number of hand looms.

In addition, there are probably over 700 smaller enterprises in various parts of the country (Aleppo, Damascus and Homs being the main centers) engaged in the manufacture of cotton, rayon or woolen cloth on mechanical looms. In total they have roughly 3,800 looms and about 9,000 workers are employed.

A large number of hand looms are still used for weaving cotton, rayon, [289] woolen and hair cloth. Although declining in importance, there are probably still over 6,000 hand looms and about 10,000 workers engaged, part or whole time, in their operation.

The total production of woven silk, cotton and rayon cloth is probably

288 about 14,000-16,000 tons. An estimated 14,000 workers are employed in the mechanical section, making the total, including the hand loom workers, 29,000.

Knitted garments, underwear, socks and stockings. This section of the textile trade has developed considerably in recent years. There are 264 enterprises engaged in the production of knitted garments. Some have only two or three machines; the larger factories are on the whole well built and designed for efficient production with the latest British, American and German machines. The use of rayon rather than cotton or woolen yarn has increased considerably, and they make use of substantial quantities of the imported rayon fiber and yarn. Three of the larger stocking factories concentrate on production of nylon stockings. About 2,500 workers are estimated to be employed in all the sections of the knitting industry, located mainly in the Damascus area. This part of Syria's textile industry is of rapidly growing importance from the point of view of exports.

Textile dyeing, printing and finishing. Many of the textile factories bleach or dye yarn or cloth on their own premises. There are also a number of firms engaged in bleaching, dyeing, finishing and block printing. These are situated mainly in Aleppo and employ a total of about 250 workers. In addition, there are many small enterprises throughout the country which bleach and dye yarn and cloth by traditional handicraft methods and for which no statistics are available.

A large dyeing and printing works, established at Homs in 1946, and unique in Syria, prints textiles by rotary machinery as well as by the block process. When the installation of additional machinery is completed the firm will employ about 400 workers on a three-shift basis.

Table 2 summarizes the scope of the textile industry.

Vegetable Oils

388

Syria has produced vegetable oil for many centuries, mainly from olives, and the traditional methods of crushing and pressing are still to be seen in some areas. The development of mechanical seed crushing and oil extraction in large factories began in Syria in 1945. About 70% of the output is now derived from cottonseed.

There are now seven large factories equipped in total with 48 Rosedown Maxoil expellers and six "French type" expellers to process the domestic and imported raw material; four of these also have spirit extraction plants. In addition, there are 10 smaller factories with expellers, hydraulic presses or small spirit extraction plants. Most of the factories are situated in Aleppo, Damascus, Homs and Latakia.

During 1950-53 the average annual volume of cotton seed available for crushing, deducting export and sowing requirements, was about 68,000 tons compared to 10,000 tons in 1947. Probably about 8,000 tons of refined cottonseed oil are now produced annually. This, added to oils from other seeds and nuts, imported[2] and indigenous, indicates a total annual production of about 10,000 tons of vegetable oil (exclusive of olive oil). When the additional equipment now in the process of being installed is in production, the total capacity of the factories will be in the region of 20,000 tons per annum.

TABLE 2 The Textile Industry

Type of enterprise	Number	Capital invested where known (million £S)	Spindles	Looms	Knitting machines	Estimated number of workers
Cotton and rayon spinning and weaving factories	6	32.7	90,000	1,400	—	6,000
Woolen spinning and weaving factories	3	2.3	900	40	—	160
Mechanical brocade-weaving factories	3	1.5	—	50	—	140
Small enterprises using mechanical looms	788	3.0	108	3,800	—	8,000
Small enterprises using hand looms	n.a.	n.a.	n.a.	6,000	—	10,000
Knitting industry	264	9.2	—	—	1,630	2,500
Textile printing and mechanical dyeing and finishing	15	6.5	—	—	—	650
Total	1,079	55.2	91,008	11,290	1,630	28,450

NOTE: Figures in some cases approximate estimates.

Syria exported about 1,200 tons of cotton seed oil in 1953, 24,300 tons of oil cake and other residue from vegetable oil extraction, the highest

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[2] Limited amounts of copra and palm seeds are imported.

388 figure yet recorded. Very little of the valuable by-products is used for feeding farm stock in Syria; the husks, which constitute about 35% of the weight of the seed, are disposed of mainly as boiler fuel.

In the areas near the olive groves there are about 750 animal or hand-operated mills and presses and about 200 either wholly or mainly mechanically operated. The annual production of olive oil has averaged 10,000 tons over the 10 years 1942 to 1951, five of which were poor seasons. Most of the production is locally consumed, forming an important component of the diet.

The seed crushing factories employ about 1,000 workers, and in the olive growing districts there are probably another 1,500-2,000 who work on the olive mills and presses for short periods each year.

Since August 1, 1952 there has been an embargo on the import of vegetable oils to protect the local market.

Soap

In the past the renowned Syrian soap industry was based entirely on olive oil; now there is a tendency to mix in cheaper oils and fatty acids. The industry has lost much ground both in the home and foreign markets due to the competition of occidental soaps and the failure of Syrian manufacturers to modernize their methods. Sir Alexander Gibb & Partners reported in 1947 that by degrees the small "cottage" installations were giving way to larger, though not necessarily modern, factories.

Today according to official figures eight of the 59 soap factories are considered modern; 600 workers are employed.

The total soap production in 1947 was under 4,000 tons. By 1953 it was estimated to have risen to between 8,000-9,000 tons, of which 1,900 tons were exported. Since August 17, 1952 importation of most types of soap has been prohibited.

Sugar Refining

251 Until the Sugar and Agricultural Products Company started production on a small scale in Homs in 1949, Syria imported all of its sugar requirements. growing only a small amount of cane locally. The company has tried to develop a beet crop that will provide most of domestic sugar requirements. In 1953, 51,500 tons of beet produced 7,058 tons of sugar.

The company's present capacity is 800 tons of beet per day. The beet pulp 257 is dehydrated for use as animal fodder and about 600 tons were exported in 1953.

Raw sugar is imported from the West Indies, South America and Formosa. In 1952, imports of 16,400 tons produced about 15,000 tons of refined sugar; in 1953 imports rose to 24,000 tons, producing about 22,200 tons of refined sugar.

The total 1952 and 1953 production of refined sugar was 19,200 and 30,000 metric tons respectively. An average yield of about 14% refined sugar is obtained from beet sugar and 91.5% of refined sugar from the raw sugar.

The imported raw sugar is taxed at 27.5 piasters per kg., while the corresponding tax on imported refined sugar is 43.5 piasters. The price of refined sugar at the time of the mission's visit was 85 piasters per kg. Although the law provides for tax rebate on exported goods containing sugar, the net price is still considerably higher than world prices and it was reported to be administratively extremely difficult to obtain a rebate.

The molasses by-product is used for the production of alcohol, of which 477 tons were produced in 1953 by fermentation and distillation.

Vegetable and Fruit Canning and Preserving 255

Damascus is the principal center of the canning and preserving industry, the Ghouta being an important vegetable and fruit growing area. Two large factories and a smaller one, equipped with modern machinery, produce canned vegetables and fruit, dried fruit, fruit paste, fruit juices, jams, pickles, etc., manufacturing their own cans from imported tin plate. In the canning season these three factories employ about 1,200 workers in all. There are also a considerable number of small establishments in Damascus and elsewhere which produce jams, paste, juices, etc. Production varies considerably but recent estimates suggest a total output of about 4,000 tons a year.

The supply of vegetables for canning is limited and their quality could be greatly improved. The industry has suffered from the dissolution of the Customs Union with Lebanon, that country having been an important market.

As the Syrian market for canned goods is limited, the industry is very dependent on exports, but the high price of sugar makes successful compe-

256 tition difficult. Exports of canned vegetables and fruit products without sugar, as for example dried fruits (apricots), pulp and tomato juice just now seem to offer greater possibilities, but foreign quality competition is still severe.

Cement

339 There are two cement factories in Syria, one near Damascus and one in Aleppo. Their combined capacity in 1953 was 243,000 metric tons. Planned expansions are expected to result in an increase to 403,000 tons by 1955. The two companies have about 500 factory employees, working on a continuous three-shift basis and there are about 300 additional workers in the quarries.

There are ample supplies of limestone in close proximity to each factory. The other constituent materials are readily available and are usually brought in as return loads. Refractory bricks are imported. The rotary kilns are oil fired, about 150 kg. of fuel oil being used for each metric ton of cement produced. The transport costs of fuel oil are heavy, varying from £S 10 to over £S 20 per ton.

Syrian cement now costs about £S 80 per ton ex factory, including the tax (for domestic use) of £S 15 per ton, against prices of from £S 50 to £S 70 per ton for European and Lebanese cement c.i.f. Beirut.

Glass

323 Glassmaking is one of Syria's traditional industries. Until the end of the last war, broken glass constituted its raw material and primitive hand methods were used, but production is now concentrated mainly in one large factory on the outskirts of Damascus. There are also 12 small enterprises, several of them in the Damascus area, engaged in the production of bottles, glass containers, lamp glasses, etc. Machines are used in certain processes, but production is still largely in the hands of glass blowers.

The output of the large Damascus factory, considered to be the most modern factory of its kind in the Middle East, averaged almost 4,000 tons annually during 1950-53. Sand has to be imported from Lebanon, as the local sand is unsuitable; soda ash and silica are imported from Europe and fuel oil from Lebanon. The company sells its standard window glass in

Syria at about £S 2.85 per square meter. Most of its production is sold 323 locally and there has recently been a marked increase in demand from its export markets in Lebanon and Jordan where Syrian glass is admitted duty free. Since 1952 the importation of sheet glass, many containers and other glass articles has been prohibited.

Tanning and Leather Dressing

The development of the tanning and leather dressing industry from 282 the handicraft to the mechanically-aided stage began about 1929 and has made good progress, particularly since the dissolution of the Customs Union with Lebanon.

The supply of Syrian sheep and goat skins is more than sufficient to meet local demand, but raw cow and buffalo hides were imported to the extent of over 2,000 tons in 1951 and over 2,500 tons in 1953 to supplement the supply of local hides. About 800 tons of untreated hides and skins were exported in 1951 and 600 in 1953, and about 430 tons and 330 tons of processed leather and leather goods in 1951 and 1953 respectively. According to the most recent official figures (end of 1953) the tanneries which the government classes as factories numbered 75, mostly in the Aleppo and Damascus areas. The annual output amounted to 2,700 tons of sole hide and 4.9 million square feet of other leather. The number of workers employed was given as 2,700.

Elsewhere we have mentioned the successful establishment of an industrial zone for tanneries on the outskirts of Damascus. This has provided an opportunity for the introduction of additional modern machinery and a great improvement in working conditions at the new location. The new tanneries vary considerably in size, the number of workers ranging from five or six to about 100.

Boots and Shoes 295

Leather boots and shoes with leather or rubber soles are made by hand or on simple machines in small workshops in most parts of the country, or by the retailer on his own premises. There are no reliable figures of the number of workers or volume of production.

During the last few years four factories have been established near

295 Damascus to manufacture rubber boots, canvas and rubber shoes, and felt and rubber shoes by the hot molding process, using imported crude rubber, imported and local waste rubber and canvas, and locally made felt. Production is said to be about 300,000 pairs per year and about 200 workers are employed. Other factories in Damascus and Aleppo produce rubber soles and heels. About 1,600 tons of rubber and rubber waste were imported in 1953, but it is not known how much was used in the boots and shoes industry in addition to local scrap rubber. The importation of boots and shoes is prohibited.

Matches

389
372 Syria's first match factory started production in Damascus in 1930. By 1952, six more had been built. Damascus has the three largest, Aleppo the other four. Supplies are drawn mostly from local timber, though some additional wood, as well as chemicals, is imported.

An improved layout of machines and the introduction of small conveyors would increase efficiency and assist in lowering costs.

Together the factories employ about 350 whole or part time workers. The three Damascus factories produced about 25.6 million boxes in 1952 and 32.2 million in 1953. Production figures for the Aleppo factories are not available. The importation of matches is prohibited.

Tobacco

277 A number of enterprises grade and prepare tobacco for export, but the
655 manufacture and importation of cigarettes and tobacco has, since 1951, been confined to the State Tobacco Monopoly Administration.

The monopoly operates a cigarette factory in Damascus and one in Aleppo, and a factory in Latakia which manufactures and packs tobacco for retail sale. The tobacco for manufacture is partly Syrian (from the Latakia region) and partly imported. Cigarettes, tobacco and cigars are also imported from Europe and the United States.

The Damascus branch is in a new factory where tobacco is sorted, damped, stripped by hand only, and cut. The cigarettes are made on a number of old German machines and a few new American ones.

The tobacco monopoly employs 2,300 workers; total production of all three factories amounted to 2.7 million kg. in 1953.

Grain Milling

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The grain milling industry is spread widely throughout Syria. The Ministry of National Economy records over 360 small enterprises with a total of 311 mills and 257 cylinders, employing about 1,700 workers. Many of these are very small units driven by a diesel engine or by water power. In addition, there are five larger mills in Damascus, Aleppo and Homs fitted with modern machinery and employing a total of about 250 workers.

Other Industries

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Syria has many minor industries, some of long standing, others new. These include enterprises for the manufacture of paints and colors, biscuits, spaghetti, confectionery, metal containers, furniture, domestic utensils, liquid gas, alcoholic and other beverages, ropes, tiles, cement piping, plastics, cosmetics, cardboard, plywood, pins, nails and springs, and establishments engaged in refrigeration, processing of licorice root, casting of iron, brass and other metals, manufacture of hand and machine tools, repair of motor vehicles and accessories.

Deposits of asphalt near Latakia are being worked by a company which produces raw and processed asphalt and asphalt tiles.

II APPRAISAL OF INDUSTRIAL CONDITIONS

Location

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The Damascus, Aleppo and Homs-Hama areas are the main centers of manufacturing industry, a logical location in terms of accessibility of raw materials, communications, water and power services, skilled labor and the proximity of markets. These industrial towns, conveniently situated at a distance of less than 150 miles from the nearest seaports, and connected with these by road, rail or both, are the natural market places for agricultural products and the largest centers of consumption for manufactured goods. Latakia, next in importance, is a rapidly growing port town.

Raw Materials

433 Considering the present structure of Syrian industry, its supply of raw materials is generally speaking not unsatisfactory. In the preceding section we have referred to the import needs, if any, of Syria's principal industries. Most local and imported raw materials are generally available at competitive prices. The principal exception is sugar, the high price of which presents a serious drawback to the fruit canning, jam and candy industries. The prohibition of imports of cotton seed for industrial use hampers the ability of vegetable oil manufacturers to enter the export market at competitive prices. Some branches of the textile industry dependent on imported cotton yarn or cloth, subject to high customs duties, are in a similarly unfortunate position.

On the other hand certain laws or regulations in effect give some Syrian industries a right of first refusal with regard to locally produced raw materials; export of both ginned and non-ginned cotton, cotton seed, raw wool and raw hides, is subject to licensing, while export of timber and raw metals is prohibited. The efficacy and desirability of such measures may be questioned (see Section IV), but they are elements of the prevailing industrial climate.

The transportation of local raw materials to the industrial centers, where they are processed, is not unduly burdensome, thanks to the favorable location of Syrian industries in or near the producing areas. Moreover, the distances between these centers and the seaports are not too great. Nevertheless, transportation in Syria is relatively costly and an improvement in the transport sector would not only facilitate exports of surplus raw materials but would also benefit the processing industries and their competitive position.

Water and Power

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371 The main industrial centers are, generally speaking, well provisioned with water. Damascus has the best water supply among Syrian cities, thanks to the springs of Figeh. Aleppo's water supply, which was so inadequate that some factories had to select sites outside of the town where they could drill their own wells, has now been greatly improved by a link with the Euphrates River. Homs and Hama have more than sufficient water

resources in Homs Lake. The water rates charged by the municipalities 433 are by no means excessive. 312

With regard to electricity for light and power the conditions are, 371 however, much less favorable. The capacity of the municipal power plants in the four main industrial cities is far from sufficient to meet total consumption needs. Most of the larger factories have had to install their own power plants, which imposes an additional capital burden on them.[8] Factories which have no power plant of their own often suffer considerable losses resulting from breaks in the power and light supply. Electricity rates of public utilities, although higher in Syria than, for instance, in Lebanon, Turkey and Egypt, compare not unfavorably with those in the main Western industrial centers.

Equipment

The mechanical equipment of the major industries is in general good. 433 Obsolete or inefficient machinery is continuously being replaced by new 462 plant. Nevertheless, there are still many old factories and workshops where equipment is primitive and modernization is much needed.

Some industries, however, seem as a whole to be overequipped in relation to the available raw material supply or the market outlets for their products. A striking example is the installed capacity in the cotton ginning industry, which could handle between two and three times the present cotton crop. This is no doubt due in part to an overestimation at the time of the cotton boom. The government has accordingly prohibited the importation of cotton gins. In the case of the vegetable oil industry the installed capacity might be more fully utilized if cotton seed were freely importable and oil manufacturers could enter the export market for vegetable oils at competitive prices. As a complement to the protection of local cotton seed, the government has also placed an embargo on the importation of vegetable oils. A third instance of overequipment is in the glass industry: the Damascus factory was designed and installed on the basis of the rather ambitious notion that it should serve most of the needs of the Middle East. Some of its machinery, as for instance that for the manufacture of electric bulbs, has never been in operation. Although most of the items it produces may not be imported into Syria and although recently

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[8] See Annex G, p. 413.

433 exports to Lebanon and Jordan, where its glass is admitted duty free, have
402 been increasing, the plant is running much below capacity. A fourth instance is the match industry, which has a capacity much in excess of the requirements of the home market. This industry is also protected by an embargo on imports but prospects for increasing exports are practically nonexistent; European matches are of better quality and have captured the Jordan market, Lebanon produces its own and Iraq is putting up a match factory.

Among the industries in which the greatest expansion is taking place, the cement industry ranks first. After completion of proposed extensions, the combined capacities of the Damascus and Aleppo factories will be about 400,000 tons in 1955 as against 240,000 tons in 1953. It is difficult to estimate Syria's cement requirements in the foreseeable future. In 1953 these amounted to 320,000 tons, of which 120,000 tons were imported, but it is probable that even if the present rate of private urban building is not maintained, some increased demand will result from the construction of public buildings, the creation of new settlements, improvements in rural housing materials, the extension of irrigation and improvements in the road system. Since several Middle Eastern countries have their own cement factories (Lebanon has long had a large cement factory, Jordan has just completed one and Turkey has a number under construction), it is doubtful whether Syria will be able to maintain its small export trade.[4] Although the 1955 total production capacity may somewhat exceed the requirements of the local market, the planned extensions do not seem unreasonable and may even contribute to more efficient operation and lower unit costs.

288 The textile industry is expanding capacity by increasing and moderniz-
402 ing equipment. The existing plant is operating at full or almost full
431 capacity, three working shifts being general in the spinning and weaving
433 factories.

In 1953 and through 1954 several tens of thousand additional spindles, several hundred new automatic looms and numbers of knitting machines were installed and optimistic opinions were expressed as to the usefulness of considerable further extensions. Their justification depends on the development of the home and adjoining markets. Syria is approaching self-sufficiency in cotton textiles and the prospects for exports appear promising only in certain specific brands. Only cotton yarn of the higher counts is imported; exports are insignificant. Imports of cotton cloth are

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[4] 1,000 tons in 1952; 24,000 tons in 1953.

14:International Bank S-5 (1954)1955 I.D1 Syria MD1

larger, and exceed exports which have been falling off. On the other hand, 288
exports of knitted, cotton and rayon goods and other articles of clothing, 462
garments, underwear and socks exceed imports by far. 459

It should be kept in mind, however, that the entire cotton textile 453
industry is well protected. Imports of yarn and cloth are subject to rather [551]
high import duties: 45% ad valorem (about 33% at the free rate of the Syrian pound); duties on fine cotton yarns are substantially lower. In contrast, rayon and woolen yarns are duty free. Socks and stockings (except those made from woolen yarns), men's shirts and pyjamas for men and women may not be imported. This protection, though helpful to the home market, hampers the export trade, particularly in finished goods. This is especially so of those goods requiring use of imported materials in their production; no adequate tariff rebate is given on foreign materials in the exported finished goods. Syrian shirt manufacturers, for instance, claim that with existing machinery they could easily double their production and compete in the export market but for these unfavorable conditions. Although most of the surrounding countries heavily protect their own textile industries, some of Syria's finished textile goods seem to be in a position to compete on the international market to the extent that the component materials are not burdened with protective duties.

In the dyeing, printing and finishing industry—which for a long time lagged behind—a considerable expansion is still anticipated and seems fully justified. Additional machinery was being installed to make possible a full three shifts.

The worsted and woolen cloth industry is not as well equipped with modern machinery as the cotton textile industry. Although the existing plant operates little below capacity and imports of cloth are rather significant, the industry shows no great inclination to expand. Despite the fact that imported yarn is duty free and imported cloth is subject to a rather high tariff, there is keen foreign competition by Italian cloth in the cheaper ranges, British cloth in the higher class and by second-hand suits from the United States. Complaints were heard that the transport charges on the bulkier imported yarns weigh heavily on the industry in comparison to the cost of transporting imported cloth. This drawback seems difficult to overcome. Exports of woolen yarns and cloth have been running well under 7%, by value, of imported yarns and cloth, and in view of the factors mentioned above, no large expansion of exports is to be expected. For recent figures, see Table 1 of the Appendix.

255 The manufacture of silk and artificial silk brocade, mainly as a luxury
402 export, employs only a few mechanical looms; hand looms are still in the
433 majority. The existing capacity seems to be adequate to meet the demand which, because of the high price of the goods produced, is bound to be fairly restricted. Trade figures, however, reveal a trend towards increasing exports of the less expensive types of cloth made from cotton or rayon or a combination of both materials. Recent export and import figures are given in the Appendix.

255 For one of the factories in the new and continuously expanding rubber
402 boots and shoes industry, most of the machinery (except the cutting and
433 sewing machines) was made in small local engineering shops and assembled at the factory by the company's own labor. It is somewhat primitive, although the goods produced are of reasonable quality. The installation of modern foreign machinery would considerably increase production and reduce labor costs. This industry is protected by an embargo and has a small export trade with surrounding countries. Shortage of capital seems to be the main impediment to faster modernization.

Capital

472 The original capital of most of the larger Syrian industrial enterprises
454 was put up either by a single family or a small partnership and in general the expansion reflected the amount of earnings retained in the firm. Even in the rather exceptional case in which an enterprise was corporate in form (*société anonyme*), it usually maintained in substance a privately owned and privately financed character.

454 This pattern of organization and growth is equally true of the majority
471 of industrial firms created since 1945, among them the largest in Syria. Some of these began on a large modern scale, requiring both heavy investments and several million £S of original capital for their financing, and although generally incorporated with a certain spreading of stock in some cases, the company much more often was owned or largely controlled by one or a very few persons. This situation reflects the prevailing distribution of wealth, the reluctance to participate in business without control, the unfamiliarity with stock, the lack of a well organized capital market, particularly for equity investments, and last but not least the preference for large and quick returns on savings, for which there were, at least in the

first postwar period, ample opportunities outside industry (trade, agriculture and real estate). 464 471

464 The main source of the capital which founded these new industries was commercial profits accumulated during the war by Syrians in and outside Syria; a certain amount of Lebanese capital seems to have been contributed. Many companies were able to operate with the capital originally subscribed, but in some cases the paid-up capital was mainly or entirely absorbed by land, buildings and equipment, leaving little or nothing for working capital. The mission encountered several instances in which working capital had been supplied by banks on an overdraft basis at a rate of 5% to 7%, but mostly for rather limited amounts only. In a number of cases, however, when larger amounts were required, industrial firms had recourse to a scheme of government-guaranteed industrial credits introduced in 1949. Although it was reserved for industrial corporations and thus did not cover the needs of the large majority of Syrian industrial enterprises not organized in that form, it has been very helpful to the companies which were able to benefit from it while passing through a difficult initial period of inadequate financial resources. Such credits were made available by the Banque de Syrie et du Liban for three years (now renewable for an additional five years) at the low rate of 3%.

Most Syrian industrialists, hard working and thrifty as they are, prefer to forego paying dividends rather than remain indebted or incur new indebtedness with banks. In most cases loans for working capital are paid off as soon as possible; new machinery is generally purchased with plowed-back earnings and often reserve funds are formed with a view to making further extension or modernization. In several instances the originally subscribed capital has been increased by issuing new stock to the old shareholders. The government-guaranteed loans, on the other hand, are so exceptionally attractive that in the difficult circumstances at the time the plan was initiated there was a great readiness to apply for them and later to have them extended. However, during the last few years the government has become more reluctant to give this scheme a wider application. The total amount which can be guaranteed is now limited to £S 15 million. At the end of 1953 loans outstanding amounted to £S 13.4 million.

433 457 On the whole, the development of Syrian industry has been on a sound basis from the financial point of view. True, one frequently finds considerable amounts of loan debts on the balance sheet of industrial corpora-

453 454 tions; these, however, often represent contributions to working capital by members of the owner-family or an inner circle of controlling shareholders who for various reasons prefer this technique to accepting additional stock. This may be an unfortunate situation from the legal point of view, although in practice it does not seem substantially to weaken the continuity of the capitalization. The government-guaranteed loans may be subject to criticism, particularly with regard to the applicable interest rate, which is much below that reasonably to be expected in a country where capital is relatively scarce. However, thanks to the provision that in each case these loans may not exceed half the paid-up capital of the borrower, they have not dangerously affected the financial structure of the companies concerned. Yet the mission feels that the entire system of government-guaranteed industrial loans financed by the BSL does not at this stage provide an appropriate and adequate solution to the problem of supplementing the traditional means of financing industrial development.

463 Although the larger gaps in the main fields in which conditions for modern industrial production are reasonably favorable have either been filled or are rapidly being filled, the industrialization movement is far from being exhausted. All the evidence indicates that it will continue to spread, though probably at a slower rate than in the years immediately preceding 1952 and along more selective lines. With the limits of the home market within reach or already reached, further development of existing industries will depend largely on their success in attaining a higher degree of efficiency and reducing production costs. In view of these trends and requirements the mission is of the opinion that a specialized credit institution is needed to furnish both technical assistance and industrial banking facilities, to the extent that these are presently lacking, and to provide a firmer basis for further investment financing. A more detailed proposal for such an investment bank will be found in the Main Report.

Labor

464 According to an official estimate, the number of workers employed in Syrian industry (excluding electrical productions, commerce, etc. and enterprises employing only family members) is approximately 70,000. In some industries, particularly in the textile sector, the supply of skilled labor is barely sufficient for present needs, but unskilled labor is generally

464 available as required. More women are to be found in modern industry than formerly, especially in the hosiery and other textile factories.

The Syrian workman is on the whole better educated and more adaptable than his counterpart in most of the Middle Eastern countries. The availability of a large force of handicraft workers skilled in the fashioning of metals, wood, stone, textiles and other materials was of great value when the rapid expansion of industry began. As it proceeded, the government and the industrial leaders became increasingly conscious of the need for systematic vocational education and training in schools and factories; this has made considerable progress in recent years.

In Annex I an appraisal is made of the existing vocational (other than agricultural) schools in Syria; our recommendations regarding their extension and improvement are designed better to fit them to the requirements of industry as well as those of commerce and banking.

The private business world, as well as the government, has made its contribution. Most Syrian employers now recognize that successful plant operation demands an adequate supply and a small turnover of skilled labor. Some of the larger factories have instituted training schemes, some providing up to three months specialized training during which the apprentice is paid the full minimum wage. Most of the other factories and workshops have systems under which learners are gradually promoted from the simple to the more skilled operations.

467 There are nearly 200 industrial unions combined in federations in Syria, with a total of about 25,000 members. The federations and also a large proportion of the trade unions have mutual funds, derived in part from normal subscriptions of members, and partly from government subsidies. They are used for grants to members for medical expenses, hospitalization, extension of the legal periods of sick pay, grants to aged workers, unemployment pay and the like.

466 647 The Directorate of Labor and Social Services in the Ministry of National Economy is responsible for ensuring enforcement of the provisions of Syria's rather liberal Labor Code, supervising the trade unions, establishing and operating public employment offices and encouraging the foundation of private ones.

465 Wages are comparatively low. Minimum wages are fixed by local Minimum Wage Boards. A fairly representative sample of daily wages seems to be: boys and women, £S 1; unskilled men, £S 2-5; skilled men,

465 £S 5-7. For exceptionally heavy work daily wages up to £S 9 are paid. Foremen and managers receive from £S 10 upwards. It is far from certain whether the smallness of the wage offsets the low labor productivity. Employer-employee relations appear to be fair and on a democratic basis.

Management

464 Industrial management presents some striking contrasts, as pointed
463 out in the Main Report. It is commendable that, in order to accommodate students who may serve as future industrial managers and top technical staff, the scope of the Engineering College of the Syrian University is being widened. In the past, only civil engineering has been offered but in the near future mechanical, electrical and chemical engineering will be included in the syllabus. In due course this will increase the local supply of trained personnel for industry and thus help overcome one of Syria's greatest deficiencies. Although this will make technical knowledge more readily available at lower cost, it would be very helpful if an institution were established to give technical, economical and financial advice on a consultant basis. This is one of the functions the mission has in mind to be performed by the proposed investment bank.

The mission observed that there are many weaknesses which could be avoided by more careful planning and by a better understanding of the various factors which make for higher efficiency. The proper estimation of the size of the market and the production capacity required to satisfy it, the quantity and quality of the necessary raw, or partly processed, materials and their sources and rate of supply, the utilization of waste products, quality control of the end products, analysis and control of costs and the application of budgeting could in many cases be introduced or greatly improved. Again, the great influence of working conditions on efficient production is often insufficiently recognized.

It was pointed out earlier that the basic industrial factors are, generally speaking, not unfavorable. It is the problem of raising the standard of efficiency generally that should receive primary consideration, preceding, in most cases, the provision of greater capacity. This conclusion stresses the urgent need for more and better qualified managing personnel, trained in modern industrial methods through frequent contacts with the West, and for intensified technical assistance.

Profitability

The profitability of Syria's industry varies widely from one industry to another and in some cases even within an industry. Differences in the quality of management may produce a marked variation in profits.

Some indication of profits is given below. Generally the data have been obtained from profit and loss statements which are not always clear. Profits are defined as earnings after taxes but before deductions for assignment to compulsory reserves and allocations to the boards of directors.

The cement industry is by far the most profitable in Syria. Quoted prices of shares of the two cement companies increased by about 100% between 1951 and 1953. The Aleppo company earned 25% on its paid-in capital during 1952, the first full year of operation. Profits earned by the Damascus company amounted to 22% on paid-in capital in 1950, 34% in 1951 and 48% in 1952. In 1953 it was able to increase its capitalization from £S 6 million to £S 9 million out of accumulated profits.

In the textile industry (spinning and weaving), profits have varied widely. One of the more successful firms in Damascus earned 9.3%, 17.7% and 22.9% on its paid-in capital in 1950, 1951 and 1952 respectively. One of the largest Aleppo companies earned about 30% on its paid-in capital in 1950 and 1951 and a little over 12% in 1952. On the other hand, another large Aleppo company suffered consistent losses amounting to a total of £S 1,826,550 in the years 1949-52 inclusive, while a third Aleppo company of more moderate size was liquidated in 1953 after losses totaling £S 911,233 in 1951 and 1952.

The hosiery industry appears to be doing well, one concern having earned about 20% on its paid-in capital in 1953. Little is known, however, about the profitability of this branch of industry in general.

The clothing industry (suitings, underwear, shirts, pyjamas, etc.) appears to be moderately profitable.

Profits data for the canning industry are also largely lacking. One company in Damascus earned 13.8% on its paid-in capital in 1952. Another, also in Damascus, apparently had profits of less than 3% in 1953.

The sugar company at Homs has earned modest profits in recent years. After initial losses in 1949 and 1950, the company earned about 3% and 6% on paid-in capital in 1951 and 1952 respectively. Presumably profits continued to increase substantially in 1953.

433 434 The vegetable oils and soap industries have not generally been very profitable. One of the larger Damascus companies had substantial losses in 1949 and 1952. In 1950 and 1951, however, it earned 20% and 30% on its paid-in capital. One of the more important companies in Aleppo apparently barely broke even in 1951 and 1952 and suffered severe losses in 1953, so that it was reported to have gone into liquidation in 1954. A new Aleppo company which started operating in 1952 apparently has been somewhat more successful to date.

The large glass factory near Damascus earned profits of about £S 200,000 on £S 7 million paid-in capital in both 1952 and 1953. Prior to these years of modest profits it consistently suffered losses except for the year 1950 when it showed a net profit of £S 183,140.

On the profitability of tanneries there is little information, although one evidently earned almost 7% in 1952 and 14% in 1953 on its paid-in capital.

The rubber shoe industry is apparently highly profitable, if one can judge from the data available on one company which earned almost 55% on its paid-in capital in 1952, and approximately 85% in 1953.

The match industry is suffering from overcapacity and, owing to keen competition, seems to have made little profit in recent years.

For other industries, such as milling, beverage, paints, etc., no information is available on profits.

III GOVERNMENT AND INDUSTRY

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The relations between government and industry in Syria will be discussed under the following headings: (1) tariff policy and embargoes, (2) credit facilities, (3) fiscal privileges, and (4) other controls and incentives.

Tariff Policy and Embargoes

Syria achieved customs autonomy for the first time in recent centuries in March 1950, with the termination of the Customs Union with Lebanon. As a natural consequence, each country began to apply its normal tariffs to imports from its former partner. Only a few days later, the Syrian tariff on imports of certain foreign products which competed with local industry was increased from 25% ad valorem to 40% or 50%. This was true of canned vegetables and fruits, fruit juices, jams, candy, woolen and mixed cotton cloth and various kinds of glass. In estimating the amount of protection thus provided it should be kept in mind that the tariff duties are based on the import prices at the official rate of exchange, but as the goods are actually paid for at the free rate (with the exception of mineral oil products) the incidence of the duties is less than two-thirds of the apparent rate.

In 1950 also a special customs duty of 5% was introduced, as a so-called "consumption tax" on imported products, substituting for various municipal taxes previously collected. Although largely revenue-producing in character, this measure somewhat increased the protective effect of the tariff.

Shortly after ending the Customs Union the Syrian government enacted legislation bringing import licensing, until then a matter for joint decision, under its control. In view of the favorable development of business conditions following the outbreak of the Korean war, application of licensing was deferred.

By early 1951, however, several factories appeared to be overstocked with raw materials purchased at boom prices and certain weaknesses inherent in the Syrian industrial structure became more apparent. Several industries seemed to be overexpanded in relation to internal consumption and insufficiently prepared to meet foreign competition both at home and in the international market. They requested the government to give them a preferential position with respect to the supply of essential local raw materials, to impose import restrictions on competitive foreign goods and to adjust importation of industrial machinery to the needs and absorptive capacity of the country.

As a result, between March and June 1951 the tariff on a large number of finished textile goods (hosiery, men's and women's clothing, etc.) was raised from 40% to 50%, and an embargo was introduced on "job lots of cloth" (cloth damaged, or of inferior quality or otherwise not suitable for sale through normal channels), imported in considerable quantity and greatly in demand by the poorer groups of the population. Imports of looms and knitting machines were brought under special control. The export of several materials in short supply (e.g., certain metals, fertilizers, jute sacks, paper and paperboard, and glycerine) was forbidden.

Thereafter, the protectionist policy with regard to industry became

651 more pronounced and systematic. The regulations regarding the licensing of imports were more strictly applied. The normal tariff on glass was raised to 70% and on various sorts of soap to 40% or 50%. The export of a large number of important raw materials, raw cotton, cotton seed, oil cakes, raw wool, all fruits and vegetables, was subjected to licensing. Shoes and boots were added to the embargo list. Although the embargo on "job lot cloth" was strongly protested, it was not lifted, and instead it was extended to second-hand cotton and silk clothing.

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The year 1952 was characterized by a policy of rigorous industrial protectionism. The Minister of National Economy, given almost discretionary power to institute export and import embargoes and licensing requirements, used these powers with little restraint, particularly as to import embargoes, which were imposed on four principal categories of imports: (1) goods locally produced in quantity adequate to meet domestic requirement; (2) goods for which similar local products could be substituted; (3) luxury goods; and (4) machinery which would increase the capacity of an already overequipped industry.

The restrictions and controls on exports were somewhat extended and a de facto monopoly was established with regard to import, export and wholesale trading of sugar.

These measures of extreme protectionism, supplemented by a stricter enforcement of the control on the utilization of foreign exchange by importers and various other measures which will be discussed later, made it possible for many months to charge local customers relatively high prices, compared to those prevailing in the surrounding markets, and to make substantial profits. It also facilitated agreements among manufacturers in defense of their common interests and to reduce internal competition. Complaints from those whose interests were particularly affected and a more general dissatisfaction created by a rise in the cost of living induced the government to take steps to reduce prices. Acting under general legislation enacted in 1951, and specific legislation with respect to sugar and cement, the government fixed lower prices for goods such as cement, yarns and vegetable oils and reduced the tax on sugar.

However, it was thought even in government circles that the import prohibitions had gone too far. Not only was the cost of living increasing but the income from customs duties began to drop, and smuggling and evasion of price-fixing rules became a most profitable activity. In April 1953 action of the Minister of National Economy with respect to imports

and exports was subjected to the approval of the Council of Ministers. This 651
was followed by the withdrawal of embargoes on various non-competitive 652
imports, higher tariffs being substituted in some cases. 431

As of autumn 1954 all embargoes on imported goods which directly compete with national products were still in effect, with the exception of the embargo on men's shirts, underwear and pyjamas. Imports of cotton gins are forbidden, to prevent further overexpansion of the ginning industry, and the importation of second-hand looms and knitting machines is prohibited, to ensure the installation of new and modern machinery; importation of almost all items, including machinery, is still subject to licensing. There has been almost no change in the list of prohibited exports or of those which must be licensed. Although the export tax on wheat has been repealed, cotton exports are still taxed; there were certainly good financial reasons for this, but it means in fact a continuation of the element of protection which this duty represents, in favor of the local cotton processing industry. On the other hand, products subject to an embargo or high protective duties are no longer subject to price control. The government is now relying on the effect of internal competition.

Credit Facilities

During the mandate, in 1929, the Syrian Government instructed the 652
Minister of Commerce and Agriculture to establish an industrial bank 433
with a capital of £S 500,000, in which the government was to participate; this was never done.[8]

Not until 20 years later, in June 1949, was the Minister of Finance authorized to guarantee loans to Syrian industrial corporations (*sociétés par actions*) for their first installation or to enable them to continue operations. The amount to be reimbursed under the guarantee could not exceed half the paid-up capital of the corporation and the period of repayment was not to be longer than three years. Eligibility of applicants, their needs and the conditions of both loan and guarantee were to be determined by a special committee; the Minister of Finance was authorized to require a mortgage on the property of the corporation, the mortgage to have preferred position.

Of the 18 loans totalling £S 23.627 million made by January 1952,

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[8] *Le Rôle du Crédit dans le Développement Economique de la Syrie.* Moh. Thome, Madrid, 1953, p. 157.

652 433 seven were for over £S 1 million to 10 corporations. One large Damascus corporation received two loans totalling £S 7 million. The sectors of industry to which loans were made were, in order of magnitude, textiles, sugar refining, vegetable and fruit canning and glass; a minor amount was loaned for manufacture of liquid gas and mechanical equipment. The terms on which all of these loans were made were considerably easier than those prevailing on the capital market, the rate of interest being only 3%.

By the time repayment was due, the general attitude of the government towards industry had become so favorable that beneficiaries, if they wished it, had little difficulty in securing an extension.* In 1952, extension of the period of repayment for five additional years was authorized, and "guaranteed companies" might thereafter be allowed to distribute dividends out of net profits in stated circumstances. Any guaranteeing of new industrial loans was forbidden.

By legislation in January 1954, the scheme was revived and even extended to include loans for the financing of big hotels, provided, however, that the total amount of the loans outstanding and guaranteed to industry and hotels should not exceed £S 15 million.

Fiscal Privileges

664 453 Until 1949 fiscal facilities favoring industry were restricted to special customs provision applying to imported tools, machinery, apparatus and materials for industrial requirements; in stated circumstances, they might be subject to a tariff of only 1%.

An act of 1945 exempted new construction, for two years, from the tax on income from real property. In 1950, the exemption was explicitly applied to new factories and workshops, beginning with the financial year following the completion of the projects.

On September 27, 1952, Legislative Decree No. 103 (on the encouragement of industry) granted to all registered industrial establishments, effective with the 1953 fiscal year, the following privileges under certain conditions:

1. exemption from customs duties on machinery, tools and equipment

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* It is noteworthy that at that time the large Damascus corporation mentioned above had converted its £S 7 million guaranteed loan in an overdraft of the commercial type with the Banque de Syrie et du Liban. As a result, the total guaranteed amount outstanding had dropped to £S 16.627 million.

imported for the requirements of the enterprises; the industries and the 654 imports as well as the quantities benefitting from this provision are deter- 433 mined by the Council of Ministers on the recommendation of the Ministry of National Economy;

2. exemption for six years from the tax on income from real property, for new construction in factories, administrative buildings and housing for workers and employees connected with the establishment, and industrial machines and equipment housed in these installations; the existing two-year exemption of new factories and workshops was extended for the same six-year period;

3. exemption from income tax for reserves up to 10% of annual profits, devoted within two years to the further expansion of the industrial establishment;

4. exemption from the "temettu" tax for six years from the beginning of operation; and

5. exemption from the income tax for three years from the beginning of operation in the case of industries needed by Syria or which had not been established there on the specified date.

These privileges are also applicable to additions to existing factories and industrial plants. On the other hand, an industrial establishment which suspends operations for more than a year and a half without an excuse accepted by the Ministry of National Economy loses its exemptions.

Proprietors of beneficiary industrial establishments must, among other things, furnish complete information and accounts of their enterprises, and must use the machines, equipment and construction materials which qualify their enterprises for the exemptions.

The granting of the privileges under (1) and (5) calls for a decision of the government, which can be based on the preceding appraisal of the project as required under the law on the regulation of industry, discussed in the following paragraph. The other privileges are extended automatically.

Other Controls and Incentives

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The registration of industry. Following the opening of a general public register of manufacturing enterprises in 1949, a 1951 decree introduced a system of special registers for every local industry. Anyone starting an industrial establishment in Syria must present within one month after beginning operations to the Directorate of Industry of the Ministry of National Economy or its local representative in the mohafazat, information on (a) the legal status of the establishment, its address and that of its main office; (b) the goods it produces; (c) the nature, number and power of its motors; (d) the nature, number and capacity of its productive equipment; (e) the number of working hours per day and week; (f) the number of workers employed; and (g) all other information which the Ministry may require. All industrial enterprises established at the time were required to register within three months. Every change or modification taking place in the stated data has to be indicated within one month.

The mission was informed that the registration has encountered considerable difficulties because of a wide-spread reluctance to disclose to the authorities the required data, even though they are confidential and for statistical purposes only. As a result the statistics based on the registration are not considered to be fully reliable.

The regulation of industry. The year 1952, when protectionism reached its peak, also brought a thorough regulation of industrial enterprises as such, with a view to orienting industrial activity toward the needs and interest of the country.

The establishment of any form of industrial enterprise is subject to licensing.[7] The applicant is required to submit a detailed report on his project covering (a) the name, nationality and residence of the owner; (b) the type and location of the proposed establishment; (c) the capital to be devoted to the enterprise; (d) the type, number and power of the proposed machines and their capacity; (e) the number of employees and workers; (f) the study made by the applicant underlying his decision to establish the enterprise; and (g) any other information required by the Ministry. Owners of industrial enterprises who wish to expand their establishments either by adding to the machine park or by extending their operations to other lines of production must also obtain a license. Industrial establishments in existence when the decree was issued are considered to be authorized, but have to obtain a certificate of registration from the Ministry of National Economy within six months, or thereafter apply for a license.

No detailed information is available on the manner in which the regulations are applied or as to the principles governing the decisions of the

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[7] Corporations (*sociétés anonymes*) require a special authorization by the Ministry of National Economy.

authorities. The mission was informed, however, that practically every 656
handicraft application for an industrial license is approved. With regard 433
to industry proper, applications have been turned down for various reasons. The main criteria seem to be whether the local market can absorb the additional production and whether the new or expanded industry can be expected to increase exports, especially to the Arab countries.

Facilities with regard to industrial sites. By the decree on the encouragement of industry, the government opened facilities for settlement on state domain land. The proprietor of an industrial establishment who wishes to construct a building for industrial exploitation may rent up to 25,000 square meters with a five-year option to purchase land belonging to state domain, on conditions to be determined by the Directorate of State Domain. The beneficiary is not allowed to sell or utilize this land for non-industrial purposes and the State may recover ownership of land not used for industrial construction or expansion within five years.

These provisions represent a real contribution to a reduction of the cost of establishing new industrial enterprises and to the better siting of existing ones.

Export promotion. The laws on the regulation and the encouragement 654
of industry contain several provisions, already mentioned, which permit 433
the authorities in their discretion to grant certain privileges and other 439
facilities to industrial enterprises in the interest of the national economy. We understand that the authorities have several more specific objectives in mind, including the promotion of industrial exports.

Besides these measures, which have been in existence for only two years, the Syrian Government has for several years been actively engaged in negotiating foreign trade agreements with Arab and other countries[8] with a view to promoting exports generally. Since gaining its independence Syria has made commercial agreements with Saudi Arabia, Egypt, Jordan and Lebanon among the Arab countries, and with India, Greece, Czechoslovakia, Yugoslavia and Japan. Several of these treaties include special privileges for Syrian industrial exports, either assuring them most-favored-nation treatment or exempting specific Syrian products from import restrictions or allowing them tariff reductions or exemptions. Agreements in 1953 with Lebanon and Jordan exempt some local industrial products from customs duties or apply reduced tariffs, and provide

[8] Formerly, under the mandate, commercial treaties could be concluded only with neighboring countries and countries not members of the League of Nations.

654 for the exchange of other industrial products subject to ordinary duties.
433 The inter-Arab economic agreements of September 9, 1953, between Leba-
439 non, Syria, Jordan, Egypt and Iraq, list a considerable number of industrial products to which a tariff rate of 25% of the normal tariff of these countries will be applied. But they do not exempt trade among the signatory countries from existing import and export licenses and embargoes, nor do they rule out the institution of new ones. Only in the special commercial agreements between Syria and Jordan, and Syria and Lebanon, are certain industrial products, originating in these countries, exempt from all import restrictions.

IV AN APPRAISAL OF THE GOVERNMENT'S POLICY TOWARDS INDUSTRY

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A country like Syria, with a preponderantly agrarian economy, no important mineral deposits and little power resources, still rather underdeveloped from the point of view of national income per capita and the dissemination of technical skills, is likely to have a natural advantage in the following branches of mechanized industrial production: (1) the processing—at least up to a certain stage—of indigenous crops which are exported; (2) the production of building materials and other bulky goods for local needs; (3) the manufacture in light industries of commodities for general consumption and some durable goods to meet a more or less special national or regional requirement, even with imported raw materials; (4) the production of simple tools and the repair (eventually the assembly) of locally used machines; and (5) the semi-handicraft production of some luxury goods requiring those special skills for which the country has traditionally been well known. These are in fact the main fields on which modern Syria's industry has concentrated and there is nothing fundamentally unsound about this.

On the other hand, it could not have been expected that the progress made in the period of relative isolation followed by the postwar boom would make Syria proof against the competition of long established and highly efficient foreign concerns, quite apart from the dumping of cheap surplus stocks and large imports of modern machine-made luxury goods with which it was confronted by the end of the forties. The customs tariff of the Syrian-Lebanese Union offered only a modest protection for local

industry. It is not surprising that the exposure to strong foreign competi- 656
tion created a serious situation for various new industrial enterprises, or 433
that the government began to give industry greater protection and encouragement. It appears, however, that since the middle of 1951 government policy toward industry, particularly—but not only—in the field of foreign trade, has tended more and more toward the aim of national self-sufficiency in products which can be locally manufactured rather than toward development in an international economy. We think that the former opens definitely less perspective both for a rise in the standard of living and for the future of Syrian industry itself. Therefore we recommend a reconsideration of the policy and the measures under discussion.

The priority given to national self-sufficiency has resulted in extensive public control over industry. The Syrian home market is relatively small and it has already been pointed out that several industries have reached a productive capacity which meets or even surpasses the effective domestic demand. The measures of "restriction" and "reservation" tend to make Syrian industry dependent on internal controls which are very difficult to administer and carry the danger of submitting the government to pressure groups. The exclusion of foreign competition which frequently accompanies this policy weakens the stimulus to increased efficiency and lower costs, to the detriment of the consumer and the competitive position of Syrian industry in the outside markets. Internal competition, even if it remains free, can only be a poor substitute, being affected by internal cost factors and their elasticity in a protected economy.

The mission feels that industrial policy should be reoriented toward freer, rather than centrally controlled and protected development, with a view to achieving further progress in an international economy. Only thus will Syrian industry become a supplier of manufactured goods of satisfactory quality at reasonable prices, able to expand beyond the limits set by the internal market and to earn foreign exchange by the value it adds to indigenous and imported materials.

The reorientation which we have in mind does not require the government to withdraw all regulation, protection or other encouragement of industrial enterprise, leaving free competition and international prices to organize and guide Syrian industrial production. Even in more advanced countries, with a much more diversified and stronger economy, such a policy is now rarely applied. Infant industry protection, as a means of assisting well-chosen industries to overcome temporary disadvantages and

656 allowing them time to build up an international competitive position, has
433 long been considered a legitimate instrument of economic development. Even well-established industries may require a certain safeguarding against specific forms of internal and foreign competition which do not make for sound and resistant economies with a sufficiently diversified economic and social structure. On the other hand, making due allowance for social and cultural considerations, industrialization should not be an objective in itself to be pursued irrespective of its economic cost to the national community, or without regard to its impact on the subtle balance between economic freedom and economic control.

On the basis of these general considerations the mission makes the following more specific comments on the government's present policy towards industry.

The registration of industry. Up-to-date and reliable information on the structure and operation of industry for statistical purposes is indispensable as a source of instruction and a means of guiding important decisions for the business community itself as well as for the government. In Syria there were until recently no industrial statistics, and the government deserves credit for having tried to remedy this deficiency.

The extensive procedure instituted by the 1951 law, however, is difficult for industrialists to accept, overestimates the capacity of the administration responsible for its execution and seems to fall short of reaching the objective. The relations between government and industry in this regard would be better served and a more fruitful cooperation could probably be expected if the information were to be filed with, elaborated and made available by the Central Bureau of Statistics in a form which does not disclose individual data even to the Ministry of National Economy. The Bureau should enjoy a large amount of autonomy and be so organized and equipped as to win the full confidence of both the government and the business world. Such a system exists and operates very satisfactorily in many other countries and the mission recommends that Syria draw on their experience.

This does not mean that if a particular industry or industrial enterprise requires special government assistance or control, it should not provide the responsible authorities with all the information which they may require.

With regard to the statistics concerning industry, which are particularly necessary, a distinction can be made between those requiring current

information (e.g., industrial output, raw materials consumed, workers 656
employed, the amounts invested and their sources (internally or externally 433
financed)), and such data as the number and size of establishments, their capacities, their technical and financial structures, and their organization within the framework of existing legislation. It is suggested that it is not equally essential that the latter data should be available annually and it should be sufficient to require their collection and elaboration every few years only. The mission recommends that such a distinction be made, that those statistics which have a direct bearing on policy decisions be given priority and the reliability of statistical information be given more weight than its extensiveness.

The regulation of industry. Although special conditions, such as rapidly changing techniques and market conditions, sometimes necessitate limitations on freedom of industrial establishment and industrial investment, if the benefits accruing from actual achievements are not to be offset by high costs from a social point of view, the mission is of the opinion that under present conditions freedom of enterprise should be the rule and regulation the exception. Before industrial licensing was introduced Syrian industry had, generally speaking, done a reasonably good job and shown a considerable degree of sound initiative, fair judgment and flexibility. It is true that in certain branches there had been overexpansion and mismanagement, but under a system of private enterprise such things cannot altogether be avoided. The danger is great, on the other hand, that the licensing decree will reduce initiative by substituting far-reaching control on establishment and expansion by public officials, devoted and faithful as they may be, for decisions by risk-bearing private entrepreneurs. Moreover, quite apart from the advisability of such a policy, it is doubtful whether the government has experience necessary for judicious control of the entire field of Syrian industrial enterprise and regulation of all industrial investment activities according to the needs and interests of the country.

The mission therefore recommends a return to the principle of freedom of industrial enterprise and that the licensing of new industrial establishments and the control of industrial investments be limited to special cases[*] in which the public interest requires such exceptional provisions. Furthermore, such provisions should be temporary, permitting periodic re-examination of the need to continue them. It is also suggested that before deciding

[*] Such as excessive over-capacity which would perpetuate itself even under free competition.

656 on the introduction or continuation of these measures with regard to a
433 branch of industry the government take the advice of a standing commission in which, besides various occupational groups, independent economic experts would ensure a well-balanced opinion with due consideration of all the aspects involved. Finally, it seems desirable that decisions on the issuance and cancellation of licenses by the Ministry of National Economy should be governed as much as possible by general and public directives applied without discrimination.

654 *The encouragement of industry.* In many underdeveloped countries
433 it is believed that acceleration of economic progress demands at least a shift in emphasis from primary production in favor of basic and manufacturing industry, to lessen dependence upon the already developed countries. When private initiative seems to be insufficiently vigorous, it sometimes happens that the government takes the lead by establishing publicly financed state factories and other state economic enterprises. This was done in Turkey, for instance.

The Syrian government has, however, taken a different course. Although it nationalized the foreign-owned public utilities it did not, except in one ill-fated case, itself enter the field of industrial operations by establishing factories. Instead, in various ways it encouraged private industrial enterprise, which, after all, had demonstrated its energy in promoting industrialization. Moreover, most of these measures, particularly those aimed at stimulating new industrial establishments and expansion of existing ones, were introduced only when industrial development began to show signs of stagnation during 1952.

The mission takes a favorable view of the basic principle of Legislative Decree No. 103 of 1952. In many countries at an early stage of development, a considerable and often disproportionate part of national savings tends to be invested in residential real estate or to flow into commercial or financial enterprise. Under such circumstances special incentives to induce a larger portion to be invested in industry, where they would probably make a greater contribution to the productivity of the economy, are certainly justified. We have no special comment with regard to the provisions for industrial sites. With respect to the fiscal privileges, however, we have some specific recommendations.

It seems reasonable for an underdeveloped country to exempt from customs duty imports of machinery, tools, equipment and construction materials not locally produced. In Syria decisions as to the industries and

quantities to be exempted have been made by government officials. The 654
mission suggests that for the system of individual decisions involving 433
political judgment there be substituted in the law itself a general exemption provision on as liberal a basis as possible.

We cannot endorse the temporary exemption from income tax for 654
new firms and for profits on new investment by existing firms. Our chief 433
objection to these provisions is that an income tax exemption leads to 651
rather irrational and sometimes inequitable results. It is obviously most important to the companies realizing the highest profits and it is of no value to those making no profits during the period of exemption. Furthermore, with a graduated tax such as Syria's, large firms benefit more from the exemption than do the small- and medium-sized firms. The exemption of profits derived from expansion of existing businesses, as distinguished from exemption of new firms, presents serious administrative difficulty in connection with the allocation of total profits between the new and the old part of the business. No fully satisfactory solution for this problem can be found even when both administrators and taxpayers are highly skilled and sophisticated in accounting techniques. Yet it would be undesirable to confine the concession to new firms, since additional investment in an established business may often be more productive than the same investment in a new business, especially where, as in Syria, there is a shortage of experienced managers.

The simplest way to achieve most of the benefits of temporary income tax exemption without its disadvantages and difficulties appears to be through liberalization of the depreciation or amortization allowances under the income and profits tax. In other words, the taxpayer should be allowed to write off against taxable income the original cost of plant and equipment in a period shorter than the normal useful life. For any given asset, accelerated depreciation results in a postponement, rather than a complete cancellation, of income tax liability but the investor can extend this postponement indefinitely by acquiring new assets when the first group has been written off for tax purposes.

Accelerated depreciation reduces or eliminates the chance that the income tax will prevent recovery of the capital outlay. For a rapidly growing firm it may offset taxable income and thus be virtually equivalent to exemption. The concession is automatically cancelled if the firm ceases to expand. Accelerated depreciation puts the emphasis on new investment, whereas tax exemption may grant unnecessarily large benefits to highly

654 profitable firms which do not choose to expand. Furthermore, depreciation
483 raises no great administrative difficulties.

651 Our recommendation would provide a fairly effective substitute for income tax exemption, especially the recommendation that the tax on non-agricultural real estate be transformed into a tax on a true net income is also adopted. We realize, however, that a special problem arises in adapting the accelerated depreciation approach to Syrian conditions. Businesses with gross receipts of less than £S 25,000 per year pay an amount equal to 50% of the temettu tax in lieu of the regular income tax. Since these firms do not compute net income or depreciation allowances they could hardly be brought under the general scheme. It is suggested that these smaller firms be allowed to deduct from their tax liability a credit related to the amount of any new investment in buildings, machinery or other industrial equipment.

The present exemption of reserves up to 10% of annual profits which, within two years, are devoted to expansion of the enterprises would seem to be extremely difficult to administer satisfactorily; proper administration would call for careful supervision to assure compliance. This provision could well be eliminated. The law might provide, however, that if deduction of accelerated depreciation after an investment has actually been made produces an accounting loss, the loss might be carried back against income of the two preceeding years. The present law allows losses to be carried forward against income for five years but does not provide for a carry-back of losses.

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433 *Credit facilities.* Our principal objections against the scheme of government-guaranteed industrial credits can be summarized as follows: (1) It applies only to corporations, thus excluding the large majority of Syrian industrial enterprises, which are not organized in this form, and in effect reserving its benefits to a small group of large companies, although there is no reason to assume that all credit needs outside this group can be met by other means. (2) The limitation of the life of the guaranteed loans to three years (later extended to eight) does not sufficiently allow for adapting the maturity of these loans to the requirements of the projects. As an instrument to facilitate long-term industrial financing the provision may in some cases be too rigid. (3) The 3% interest rate, appreciably below the prevailing market rate, puts the beneficiaries in an exceptionally favorable competitive position as again non-beneficiaries, and may stimu-

late projects less sound than those which must be financed on a truly competitive basis.

In the Main Report we have set forth the more fundamental objections which point to the desirability of completely abandoning this device rather than merely amending the law. In summary, they are: (1) the inability of a government agency to determine technical and economic soundness of proposed new projects; (2) the inflationary character of the scheme; and (3) the need for an independent institution to provide capital and technical assistance.

Most of the obvious or "natural" industries have been established. What is needed henceforth is (1) expansion of a more selective character, and (2) improvement in the efficiency or a lowering of the production costs in existing industries. There are possibilities for new ventures but they require careful investigation before being initiated. There is accordingly a need for an institution which through its own technical staff or through foreign consulting technicians can investigate such possible new enterprises either on its own initiative or upon request. There are still a number of enterprises, primarily small- or medium-sized, which lag behind in efficiency. It is important that there be a general reduction of costs and prices in order to increase the market at home and abroad. The less efficient enterprises often lack the resources to hire competent engineers and technicians on a permanent basis and they may suffer from deficiencies in machinery and equipment or management. An institution equipped to give or obtain technical advice on the problems of these enterprises could play a useful role. Its technicians might well be able to improve efficiency considerably by analyzing plant layout and working methods, by making time and cost studies and by examining the needs for improved machinery and equipment.

Considering the need of additional facilities to assist the financing of certain investments in agriculture and in modern hotels as well, the mission has recommended in the Main Report the establishment of a predominantly privately owned and independently managed investment bank for industry, agriculture and hotels and for providing technical assistance, primarily to industrial enterprises.

The capitalization of the bank should: (a) bear some relation to the investment possibilities of the institution; (b) permit operations on a scale enabling the earning of sufficient profits; and (c) not exceed the

652 total which reasonable expectations indicate can be raised. In the Main
433 Report we have suggested capitalization of £S 30 million, and suggested
the respective ratio of government and private capital.

The cost of necessary managerial and technical staff might run up to £S 300,000 per year and other costs might rise to the same figure with an increase in the volume of business. Possibly half of the cost of the technical staff might in the long run be recouped from fees for technical services. To economize on operating costs it would be advisable to have the commercial banks act as the bank's agents in receiving applications for loans and disbursing and servicing loans in return for a small commission.

656 *Tariff policy and embargoes.* It is far from clear that the trend toward
439 almost complete protection of industry from the impact of foreign com-
651 petition, qualified to only a limited extent by certain provisions of various
commercial agreements, has reached its limits.

We have previously recommended reconsideration of this policy. Protection of many industries has gone too far in the direction of national isolation; the balance should be restored by giving more weight to international integration. Liberalization of external trade should be one of the items on Syria's economic program.

In making this suggestion the mission is mindful of the fact that Syria's balance of payments position is not very strong and that the condition of the country's gold and foreign exchange reserves obliges the government to proceed with caution. Yet, as long as internal monetary equilibrium is preserved and the foreign exchange policy remains sound, the significance of these limitations ought not to be exaggerated.

We do not recommend immediate termination of the system of licensing imports since it enables the authorities to register at an early date the expected inflow of foreign goods. This may be considered a legitimate precaution, especially if the restriction of licenses is reserved to times when the balance of payments position is endangered. Under licensing, however, discrimination among imports is unavoidable. It should be realized that the need for such a measure indicates that there is something fundamentally wrong with the factors which determine external equilibrium; rather than continuously applying the palliative of direct import restrictions, Syria should try to remedy this situation. Even if direct import restrictions are temporarily unavoidable, they should not preclude remedial action; on the contrary, they should as far as possible contribute to bringing about an improvement in the basic conditions.

656 that the supply of the materials covered by this measure would be seriously
651 endangered if their export were permitted, particularly if the industrialists
439 were given free access to the international raw material markets.

At the time of the termination of the economic union, Syria's tariff structure was rather simple, with little diversification in rates. For most industrial products, excluding primary materials or semi-finished goods essential for local industry, the normal tariff rates (specific and ad valorem) approximated 25%. Since then, even in those instances in which the tariff was raised, the ad valorem duties, at least those expressed in a percentage of free rate prices, are still under 35%, exclusive of the consumption tax on imported goods. Only a few specific duties exceed that level.

Elsewhere in this report the mission recommends that for fiscal reasons the valuation of imported goods at the fictitious official rate prices be replaced by a tariff based on actual free rate prices, and that at the same time the entire schedule of tariff duties, both ad valorem and specific, be subjected to a careful re-examination governed by both revenue and economic considerations. This would undoubtedly result in a more diversified tariff. Certain rates, for instance on some semi-finished and finished goods, would have to be lowered; others could remain as they are. To the extent that duties must remain protective in nature (for infant industries or those subjected to foreign dumping practices), they should not be so high as to safeguard local industries from all foreign competition and thereby weaken the incentive to lowering costs. Moreover, due attention should be given not only to the interests of the producers of the "protected goods", including the industrial workers, but also to the interests of the local consumer, be it a further processing industry or the consuming public. The mission has the definite impression that with respect to the protectionist measures the voice of the industries demanding them has in many cases prevailed over the voice of the other interested groups. It is therefore recommended that in revising the tariff the government should take a broader view than it has done hitherto and pay more attention to keeping the cost of industrial necessities down for the large majority of the population.

We have mentioned that the decisions of the Minister of National Economy to impose a licensing requirement and embargoes on imports and exports now require the approval of the Council of Ministers. If the government follows the mission's recommendations, the administration of

The licensing of certain local raw material exports in order to give 656
preference to the home market can have several objectives. If its purpose 661
is to permit the local consumer to purchase the raw materials at prices 439
lower than those at which they can be sold in foreign markets, it deprives the suppliers of a price differential; this is difficult to justify. But to a large extent the measure appears to have been inspired by the consideration that many Syrian industrial enterprises lack sufficient working capital and credit facilities to enable them to finance large seasonal raw materials purchases. In that case, the objective would then be to assist local industry in overcoming a competitive handicap, as against financially stronger foreign buyers, by temporarily restricting local raw material exports, without primarily intending to create a preferential price. There may also have been a desire to protect the local raw material suppliers from being forced, for liquidity reasons, to sell out at whatever prices they could obtain at the earliest time, thus endangering steady employment in the local processing industries. If these are the purposes of the licensing measures, provision of adequate storage and credit facilities for both local consumers and suppliers would make such licensing less urgent or even superfluous. Various of our recommendations relate to such facilities, and we suggest that if and when these are adopted the system of export licensing should be discontinued.

The mission has considerable objection to the imposition of embargoes. Import embargoes tend to prevent direct foreign influence on the local prices and qualities of the commodities involved. All the arguments previously advanced against an overstressing of the concept of development in isolation as opposed to development in an international economy apply here. Granted that Syrian industry needs some protection, the mission believes that such stringent measures are not called for, especially since they make it impossible for enterprise and consumers to purchase the particular foreign goods however urgently they may need or want them.

In a limited number of cases the government itself has already substituted higher tariffs for embargoes. Unless such duties are completely prohibitive, this means in principle a reintroduction of international competition, even though in a limited form. The mission considers this a step in the right direction and recommends a total abolition of the remaining import embargoes, even if accompanied by an upward revision of the relevant tariff rates.

With respect to the embargoes on exports the mission does not believe

industrial protection through measures affecting foreign trade would be 656
largely the responsibility of the Minister of Finance. We therefore suggest 651
some procedure to assure that the Minister of National Economy also has 439
some responsibility in this connection insofar as the interests under his jurisdiction are involved. It would also seem desirable that the Council of Ministers continue to exercise its ultimate control over measures of this character so that possible conflicting considerations may be resolved in terms of the public interest in its broadest sense.

Export promotion. The priority given by the Syrian government to 654
attaining national self-sufficiency with regard to industrial products which 439
can be locally manufactured has been combined with a growing effort 433
to open up additional markets for Syrian industry, particularly in the other Near Eastern countries. Syria's execution of several bilateral trade agreements and participation in the inter-Arab economic agreement aiming at liberalizing mutual trade exchange are undoubtedly steps in the right direction. The possibilities for further industrial export promotion, however, are not being fully exploited.

First, the mission recommends that Syrian export industries be given every possible assistance in the procurement of foreign raw and auxiliary materials without fiscal charges, specifically that they be given a full rebate of such charges commensurate with actual exports, and that the system of rebates be so administered that the rebate can be quickly and easily obtained.

Secondly, it is recommended that the policy of negotiating bilateral trade agreements with Syria's main commercial partners be systematically pursued. The considerable increase in recent years in exports of silk and artificial silk cloth, knitwear and other articles of clothing and soap, particularly to the markets of Jordan and Iraq, indicates that there are industrial export possibilities worth while consolidating and expanding.

Thirdly, it is suggested that Syria which, so far as is known, lacks natural oil deposits, has an even greater interest than its oil-producing neighbors in the creation, on a multilateral basis, of a market among the countries of the Arab League; the amount of purchasing power generated by these other countries would contribute far more to the joint total than would Syria's contribution. It therefore seems to be particularly in Syria's interest to promote further inter-Arab economic integration. If this could be achieved, conditions would also become more favorable for the re-establishment of the economic union with Lebanon.

v INDUSTRIAL DEVELOPMENT PROSPECTS

The Need for Further Industrialization

433 464 It is generally agreed—and the mission shares this opinion—that with a more rational distribution and better cultivation of the available land, and particularly with a gradual extension of the irrigated area, Syrian agriculture could for a considerable time to come easily absorb the expected natural population increase. With respect to the need for further industrialization, however, the relevant considerations seem rather to be the territorial and occupational distribution of the population and the evolution of this pattern. The principal question is whether—and if so, to what degree and in which direction—Syrian industry needs further expansion to absorb the present and immediately foreseeable effective labor supply.

464 369 166 Although reliable figures are not available there is no clear evidence that Syria is suffering from chronic unemployment. There are, however, some very overpopulated rural areas with considerable underemployment and there is a continuous flow of labor from the villages to the urban centers. During the postwar period of considerable building activity and rapid industrialization, these markets were able to absorb the increased labor supply. But at times, as for instance in 1948 in Aleppo, the urban workers have become alarmed by the influx of villagers competing with them and aggravating already existing unemployment, particularly in the textile industry. There were demonstrations and a request to the local authorities to bar villagers from applying for town employment; this in turn induced the government to encourage certain village industries—the decline of which is again contributing to urban labor pressure.

This illustrates the tensions which are bound to arise as a consequence of the existing imbalance between rural-urban social and economic conditions. Unless the village standard of living is greatly improved, there is little doubt that the trend toward the towns will continue strong and that the numbers seeking employment in industry will greatly exceed the natural increase in the industrial population. This tendency may even become more pronounced when, as is to be anticipated, illiteracy in the villages declines, transport and communications improve and the rural population becomes more aware of its poverty and social insecurity.

The recommendations of the mission with regard to agriculture and 464
animal husbandry, including those concerning land tenure and irrigation, 166
would, if accepted, open significant new perspectives to the farmer and 369
farm laborers and tend to check the drift from rural areas. If it were possible to spend more on irrigation than has been recommended, the trend could perhaps be reversed. It is not likely, however, that the growing labor supply can be absorbed and unemployment avoided without further industrialization. Even on the highly optimistic assumption that migration towards the towns can be halted, Syria must contend with such factors as the natural increase in the industrial labor population and the gradual shift from handicraft to mechanization with the consequent release of manpower.

Although estimates in this field are particularly hazardous, the mission 464
suggests that under the most favorable circumstances Syria will have to 433
create at least 20,000-25,000 new industrial jobs during the next six years to keep its industrial labor market in reasonable balance.

Limiting Factors

It is often contended in Syrian official and business circles that shortage 464
of local capital rather than lack of confidence is the principal factor limit- 433
ing further industrialization. Assuming that this is so, it would follow [470]
that to advance development Syria should make a strenuous effort to create attractive conditions for foreign capital as a supplementary source of industrial financing. This conclusion does not seem to be generally acknowledged. At least the nationalization of foreign-owned public utilities without settling the matter of indemnification of their proprietors, and the regulations with respect to foreign companies working in Syria, do not indicate its acceptance.

There is, however, room for some doubt whether scarcity of capital should be considered as a major factor limiting development of Syrian industry. During the past eight years, investments in industry have supplied the country with an industrial capacity capable of meeting most of the need for manufactured articles, based on local primary production, which the population can afford; indeed, as already pointed out, in several branches of industry there is excess capacity. Generally speaking, Syrian industry appears to have attracted substantial amounts of capital. Even taking into account the fact that the sources of industrial investment

~~434~~ 433 capital were enriched by accumulated war profits and repatriated capital, it seems likely that under generally favorable economic conditions and with improvement in the mechanism for mobilizing industrial capital, the supply of such capital will be adequate for a reasonable expansion.

The amount of capital required should not be overestimated. Some branches of industry are overequipped and could employ considerably more workers before reaching full capacity. In others, where there is a better balance between equipment and output, internal savings can probably go a long way toward furnishing the necessary capital for improvement and extension of the existing plant. For the near future, with perhaps one or two exceptions, the mission does not see promising prospects for new large industries requiring heavy investment. The best possibilities for expansion may rather be found in the field of light industries which can start on a relatively modest scale. It is for these industries that the proposed investment bank should be particularly useful.

433 The factors limiting further industrial expansion which the mission considers to be of real significance are: (1) Syria's natural resources; (2) the absorptive capacity of the Syrian market; (3) the competitive strength of Syrian industry as a supplier of more and a broader range of manufactured goods both at home and on accessible foreign markets; and (4) the government's contribution to creation of stronger incentives and better possibilities of enlarging foreign outlets.

1. Syria's natural resources are mainly agricultural. Investigations of possible mineral and oil resources have produced unsatisfactory or negative results. Syria has no natural advantages with regard to power and transportation facilities. The country has not achieved a reputation for high quality production except of some limited luxury goods. Some of these limiting factors, particularly the inadequacy of power and transportation and the human qualifications, can certainly be overcome but only by considerable investment in so-called national overhead, the rate of which is limited by the increase of the national income and the share of this income which can be devoted to industrial investment.

2. Syrian industry depends to a very large extent, sometimes exclusively, on the home market. Given the size of the population and the fact that for the bulk of industrial goods imports have already been replaced by local manufactures, the possibilities for expansion of industrial production depend largely on progress made outside the industrial field in raising the volume of purchasing power of the largest number of people. The relative

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importance of the contributions of industry and agriculture to the national income is such that under existing conditions the rate of industrial expansion cannot exceed by very much the rise in income from the land. Allowance should be made for a gradual substitution of industrial products for home-made goods and handicraft manufactures, but this would not increase total purchasing power unless the manpower so released can be made more productive. Income from other sources may also rise, as for instance from construction, foreign trade, transit and tourism, but these are not of such significance as fundamentally to alter the stated relationship between the prospects for industry and for agriculture. This emphasizes the point that at this stage the primary development effort in Syria should be made in the agricultural field, and that industry will automatically benefit thereby through an increase of internal purchasing power.

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3. A third limiting factor is efficiency of production and distribution, i.e., its ability to offer its products to the ultimate consumer at prices within the purchasing power of a majority of the population. This applies to existing as well as to possible new industries.

In this connection it is very important that Syrian industry be enabled to procure its raw materials at international prices, that the costs of transportation and storage be reduced, that power facilities be improved, and that the system of commercial credit be better organized both for producers and consumers. Without intending to minimize any of these factors, however, the mission is convinced that primary attention should be directed to reducing production costs by increasing the productivity of both labor and capital and destroying any undue economic power exercised by commercial middlemen in the distribution process.

As has been pointed out, in many industries labor productivity could be increased considerably by better technical education and training, better working conditions and stronger incentives, and by improved capital equipment, with installation and utilization raised to higher standards of efficiency. This would also immediately tend to lower production costs and allow a reduction of factory prices. In the field of distribution, particularly in the villages, the wholesome effect of free competition on consumer prices is often lost because of the poverty and ignorance of the consumers on the one hand and various price-increasing practices of merchants and moneylenders on the other. The institution of buying cooperatives might be helpful; as they are difficult to manage, it is suggested that some carefully controlled experiments be made prior to any attempt to spread them widely. It also would be worth while to explore the question whether more direct selling by manufacturers to the ultimate consumer might be instrumental in reducing excessive distribution costs, at least with regard to certain articles.

In considering the establishment of new industries, besides modern technological requirements and the limitations of the Syrian market, cost factors in production as well as distribution should be carefully investigated. Ventures requiring relatively high initial outlays which can become profitable only if the volume of production is large will have to be scrutinized with extreme caution. Since it will require a major effort to keep direct costs on a competitive level, there will probably be no margin out of which to service unduly high investment costs and certainly none if the volume of sales keeps production below normal capacity.

As regards possible outlets in foreign markets, one determining factor is the accessibility of such markets; the other is competitive strength. Although there are exceptions, for instance when the foreign market is actually closed or transportation costs are prohibitive, the second factor is the more important and, in the case of Syrian industry, it is of the utmost significance. For the products of Syria's luxury industries with their rather unique character, competition is not a threat, but with regard to so-called international goods Syria has strong rivals, particularly in Western Europe, the United States and Japan, and at least for the near future it is almost inconceivable that Syrian industry would be able to meet their competition in any foreign market, even in the immediately adjoining countries, unless it is given a preferential position there. Among the countries of the Middle East, North Africa and South Asia, on the other hand, Syria could develop considerable competitive strength by increasing its industrial efficiency. In planning for expansion of existing industries as well as for entering new lines of production, Syrian industrialists should give due consideration to these markets and try to achieve standards of quality and cost which permit their taking advantage of any opportunity.

4. The fourth limiting factor is government policy. We have already pointed out that this policy in recent years has been to make Syria independent of imports of those industrial goods which can be locally manufactured and to increase the exchange of agrarian and industrial products with neighboring countries. These two objectives are not readily reconcilable. Before industrial maturity is achieved it may be justifiable to stress the necessity of first building up the capacity and experience of the local

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market, and therefore to go rather far in restricting imports. But eventually, unless this policy is qualified industrial development is bound to slow down. Then new impetus will come only from a shift in emphasis to the second principle and a corresponding revision in government policies. Syrian industry has reached this stage and we have therefore recommended that the policy of protection be modified. 433

The trend toward integration of the Arab markets, already referred to, has achieved a more liberal exchange of agrarian than of industrial products. This may be explained by the fact that throughout the Middle East the governments are sponsoring local industrial development along rather parallel lines and each in varying degrees wishes to reserve its local markets for its young industries. On the other hand, none has a sufficiently large population or purchasing power to enable it to develop a fully diversified economy of its own. It seems to be in the interest of all that their development should proceed along lines suited to the specific resources of the various countries. Regular consultations between the authorities promoting industrial development in this area would therefore be desirable.

New Industries and Some Promising Lines of Expansion

The mission has not considered it to be its task to make an extensive survey of specific industrialization projects which might be successfully undertaken in Syria in the near future. We have already pointed out there are still branches of industry in which the establishment of additional plants, either by way of expansion of existing factories or construction of new ones, would be feasible.

Since the 1947 Gibb report on Syria, conditions have changed greatly. 433
In the cotton textile industry, the disparity between the spinning and 251
weaving capacity which existed 10 years ago has largely been overcome, although it exists with regard to rayon yarn. Woven and knitted rayon fabric has taken the place of much cotton and woolen fabric in the Middle East and it is probable that this development will continue. In recent years Syria's imports of rayon yarn and rayon fabric have become significant. Yet, particularly with regard to rayon yarn it would seem ill advised to try to substitute local products for imports which now are duty free, by imposing high protective tariffs. On the other hand, further diversification of the textile and apparel industry may be promising. The increasing volume of exports of knitted goods and other articles of clothing clearly

433 indicates that in this field Syria has become a competitor in foreign markets.

218 In dyeing, printing and finishing there seems to be need for additional
modern plant. It also seems desirable to investigate the possibility of profitable production of jute fabric sacks. Imports of these sacks have rapidly increased in the last few years, reaching a total of nearly 10,000 tons with a value of £S 6 million in 1953. The need for jute sacks would be lessened if bulk transportation and storage facilities were available but even in that event an increase in general agricultural production might make the establishment of a factory for sack production from imported jute fiber or yarn an economic possibility.

433 Further expansion of the cement industry may well be required. In
331 fact, the government has authorized a new plant for Aleppo which may be transferred to the Jezireh to serve the growing requirement of northeastern Syria. A cement plant for the Homs-Hama region is also under consideration.

433 In the footwear industry modern factory production has been intro-
295 duced only with regard to rubber boots and shoes. An experiment with factory production of leather shoes in Aleppo some years ago met with such opposition from the handicraft trade that it was abandoned. Nevertheless this branch of industry may be one in which the application of modern production methods would be appropriate and generally beneficial.

433 It seems useful to investigate the economic prospects of paper and
218 paperboard manufacture. In 1953 about 8,000 tons of paper with a value of nearly £S 5 million were imported. This total comprises a large variety of different types of paper but some are imported in such quantity as to suggest the feasibility of specialized production. Straw is plentiful as raw material and in a relatively short period more poplar wood could become available if farmers and village communities gave increased attention to tree planting.

433 The production of metal from scrap and the gradual development of
402 an engineering industry may also be contemplated. The manufacture of simple pumps and engines as well as spare parts is already being carried out by many small shops but the quality of the output suffers from inadequate technical supervision. An adequately equipped and staffed plant might be able to undertake the production of these items as well as the improved types of agricultural implements to be developed for use on farms.

In the manufacture of plastic materials and domestic utensils factory 433 production has made a beginning. This also seems to be a promising field for further development.

The possibility of the establishment of a plant for mixing fertilizers and making insecticides from imported ingredients should also be explored.

In the Main Report the mission has pointed out that the erection of an oil refinery in the Homs area seems to be entirely justified.

Prospects for Village Industries

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With development of agricultural and rural community organization, better water and electricity supply in small towns and villages, wider general and vocational education and easier and cheaper transportation, the conditions under which village industries have prospered will undergo a change, not necessarily for the better. Traditional consumption patterns will be modified, techniques will change, factory-made manufactures will enter the village markets and compete with handicraft products and transportation costs will provide less protection. On the other hand, the density of the population and its purchasing power will increase and in certain regions tourist trade may develop. Village industries may find a better market for agricultural and animal products processed into foodstuffs, for the manufacturing and repairing of simple tools and implements used domestically or in the field, for the production of furniture and other articles for house and farm, ornaments, clothing accessories, costume jewelry and other goods of indigenous design.

We do not recommend that efforts be made to check historical trends by assisting village industries which will inevitably decline and ultimately disappear. Yet it seems very probable that a rather significant part of Syrian industrial enterprise carried on in rural communities will for a long time to come survive and be a determining factor in the economic, social and cultural conditions of many small towns and villages. That part certainly deserves more attention than it has generally received. An improvement of standards of quality and efficiency, commercial and financial techniques and social and sanitary conditions of these establishments would undoubtedly contribute to raising living standards in the rural areas.

It is therefore suggested that the community leaders, recommended elsewhere in this report, with the assistance of specialists representing the

433 Ministry of National Economy, carefully investigate the conditions and 369 opportunities which exist in this field. Industrial extension, assistance in the organization of credit cooperatives, particularly with a view to giving protection from usurious middlemen practices, in the marketing of products which might find wider outlets, and eventually in founding tourist attractions could be considered. Even if only limited results can be achieved by such measures they should be encouraged as a means of creating better rural conditions and at the same time reducing the pressure of labor migration toward the crowded towns.

TABLE I Summary of Industrial Exports and Imports

Items	1951				1953				Remarks
	Exports		Imports		Exports		Imports		
	Quantities[a]	Value[b]	Quantities	Value	Quantities	Value	Quantities	Value	
Ginned cotton	24,088	116,493	—	—	53,946	134,702	—	—	
Cotton seed	19,476	4,724	not shown separately		28,418	5,506	759	221	
Other oil seeds	1,389	1,268	714	491	1,515	1,122	472	280	
Copra palm kernels, etc.	—	—	650	467	—	—	1,633	776	
Cotton seed oil	891	1,615	—	—	1,223	1,413	—	—	
Olive oil edible	77	187	—	—	440	817	1,361	1,986	
Olive oil industrial	—	—	243	167	—	—	442	472	
Linseed oil	—	—	423	368	—	—	263	223	
Acid and other oils Fatty acids and greases	—	—	3,110	2,655	—	—	4,375	1,947	
Oil cakes and residues from vegetable oils	13,456	2,564	3,406	231	24,300	4,190	—	—	
Fats and solid residues from treatment of grease	—	—	—	—	—	—	1,162	79	
Soap—ordinary in blocks	1,540	2,946	171	224	1,919	2,614	—	—	
Soap—toilet	—	—	291	277	—	—	33	59	
Sugar beet	—	—	—	—	—	—	5,077	309	
Raw sugar	—	—	11,958	3,680	—	—	23,836	4,950	
Refined sugar	—	—	7,275	2,876	—	—	—	—	

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TABLE I Summary of Industrial Exports and Imports (cont.)

Items	1951				1953				Remarks
	Exports		Imports		Exports		Imports		
	Quantities[a]	Value[b]	Quantities	Value	Quantities	Value	Quantities	Value	
Glucose	—	—	2,006	992	—	—	3,029	1,032	
Canned and preserved fruits and vegetables	3,361	2,497	—	—	1,503	1,895	—	—	
Fertilizers	—	—	6,190	1,045	—	—	11,171	1,567	
Glass, glass containers, tumblers, bottles, etc.	985	334	1,668	1,467	364	125	1,134	1,160	
Cement	—	—	101,775	6,123	24,103	2,019	11,964	6,450	
Cement, white or colored	—	—	2,028	203	—	—	3,074	371	
Asphalt—natural	4,061	161	—	—	3,003	141	896	146	
Asphalt emulsion, pitch etc. for roads	—	—	5,531	523	—	—	5,554	816	
Iron and steel, rods, bars, sections, wires and sheets	—	—	31,206	8,378	—	—	36,217	9,608	
Iron—scrap	7,279	700	—	—	—	—	—	—	
Natural silk and yarn	19	639	15	120	10	221	23	263	
Artificial silk fibre	—	—	1,292	3,357	—	—	2,966	3,845	
Artificial silk yarn	147	1,270	4,160	18,134	[illegible]	1,515	6,572	15,473	
Silk and artificial silk cloth	1,252	15,065	337	3,744	1,784	13,009	440	3,049	
Wool, raw or in bulk	7,511	39,413	1,107	3,054	4,501	21,539	410	803	
Wool, yarn	30	123	216	2,412	no figure		381	3,093	
Wool, cloth and trimmings	25	141	427	5,656	79	389	691	6,183	

Blankets, rugs, etc.	—	—	200	1,307	—	—	307	2,060	
Goat hair	—	—	171	137	—	—	335	245	
Cotton yarn	215	11,630	385	1,686	21	157	537	2,276	
Cotton cloth	604	5,569	2,182	12,390	368	2,171	1,962	11,177	
Socks for men	72	980	—	—	72	499	—	—	
Knitted goods and other articles of clothing	478	5,260	172	925	1,075	7,756	57	699	
Jute cloth	—	—	130	274	—	—	169	170	
Jute sacks	—	—	2,449	2,547	—	—	9,735	5,957	
Cotton and other sacks	—	—	—	—	—	—	390	203	
Hides and skins, untreated	788	2,224	2,022	2,726	584	1,456	2,540	3,160	
Leather or skins tanned or processed and leather goods	437	1,961	42	641	334	1,300	117	707	
Tanning extract, bark and materials for tanning	979	298	1,381	909	424	289	1,766	971	Probably other chemicals would bring this up to 2,000 tons of imports.
Rubber-waste	—	—	997	143	—	—	1,491	182	
Rubber in slabs—sheets of paste	—	—	—	—	—	—	92	181	
Papers (all kinds)	—	—	4,842	4,291	—	—	8,202	4,884	
Paper—sacks and paper for cement	—	—	included above		—	—	1,094	464	Also included in Paper (all kinds).
Paper—kraft paper for bags	—	—	included above		—	—	407	192	Also included in Paper (all kinds).

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[a] All quantities are in metric tons.

[b] Values in thousands of £S.

SOURCE: Syrian Official Trade Statistics.

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ANNEX G *NOTES ON ELECTRIC POWER*

Energy Resources

371 Coal, oil and lignite resources are apparently lacking; and the calorific value of the small peat deposits is low and unutilizable. The potentialities of hydroelectric power are limited by the low volume and gradient of the rivers, the almost total absence of falls or rapids and the wide variations in seasonal flow. Only the Youssef Pasha site, on the Euphrates, has considerable possibilities for power generation. It is estimated that at this location there could be developed a firm power of 45,000 KW and a maximum of 90,000 KW. It is doubtful whether power potential on all other rivers together exceeds 60,000 KW, so that Syria's total estimated hydroelectric potential is approximately 150,000 KW—about the same as that of the Lebanese project of Litani alone.

377 1 PUBLIC UTILITIES

365 *Installed Capacity*

In 1953 the installed power capacity was as shown in Table 1.

TABLE 1 Installed Power Capacity, 1953

	Installed power		Peak load
	KW	KVA	KW
Damascus	13,000	16,500	13,160
Aleppo	10,400	15,050	10,040
Homs-Hama	2,650	3,510	2,650
Latakia	800	1,000	800
Deir ez Zor	840	915	840
Small towns and villages	6,660	7,801	6,544
Total	34,350	44,776	34,034

These data indicate that the average load factor was 40%.[1]

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[1] The load factor is the ratio of the average load in KW supplied during a designated period to the peak or maximum load occurring in that period.

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Power Generated

The amount of power generated by the public utilities and bought by them from private plants during the last five years is shown in Table 2. 377 365

TABLE 2 Power Generated and Purchased by Public Utilities, 1949–53

(*Million KWH*)

	1949	1950	1951	1952	1953
Damascus	31.55	35.25	36.91	40.19	47.58
Aleppo	25.74	33.47	36.36	43.05	49.14
Homs-Hama	9.36	10.33	11.07	12.60	13.71
Latakia	1.02	1.21	1.50	1.75	2.25
Deir ez Zor	0.86	0.94	1.06	1.25	1.54
Small towns and villages	1.81	2.81	3.67	4.46	5.63
Total	70.34	84.01	90.57	103.30	119.85

Breakdown of Supply and Consumption

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The distribution of power consumption by various uses and the total power supply are shown in Table 3.

TABLE 3 Supply and Consumption of Electricity

(*Million KWH*)

Principal public utilities[a]	1947	1948	1949	1950	1951	1952	1953
Light	17.89	22.27	27.90	33.70	37.82	44.25	52.04
Power	15.30	18.42	22.28	27.64	28.47	31.44	36.43
Traction	4.11	4.16	4.23	4.19	3.99	4.10	4.32
Losses and miscellaneous	9.74	11.31	14.22	15.76	16.52	19.00	21.45
Total	47.04	56.16	68.63	81.28	86.80	98.79	114.24
Private industrial plants[b]	3.6	5.0	7.2	10.0	15.0	n.a.	n.a
Estimated total supply in Syria	57.0	70.0	85.0	95.0	105.0	n.a.	n.a.

[a] Including power purchased from private plants.

[b] Excluding power sold.

377 Table 4 shows actual increases for the years 1947-52 and 1947-53.

It should be noted that consumption of electricity for lighting has risen more rapidly than that for power. Owing to this factor and the installation of additional equipment, the peak load has risen and the load factor has declined. This is particularly true of the small towns and villages where electricity is consumed almost exclusively for lighting.

TABLE 4 Increases in Power Consumption

(Percent)

	1947 to 1952		1947 to 1953	
	Total	Yearly average	Total	Yearly average
Light	147.3	19.9	190.9	19.5
Power	105.5	15.5	138.1	15.5
Losses and miscellaneous	95.2	14.3	120.5	14.1
Total	110.0	16.0	140.9	15.7

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Investment in Public Utilities

655 No accurate data are available on the sources of financing during the period 1946-54, but it seems that before the Nationalization Law of 1951 the large power companies financed their development projects from their own resources and with foreign capital, whereas the government helped the smaller municipalities and villages with loans. Since 1950 progress has depended exclusively on government financing and the current revenues and accumulated resources of the power companies, but it is difficult to trace in the total loans to municipalities those amounts actually used for power development. The list of loans made by the Banque de Syrie et du Liban with the authorization of the government during the last five years includes a specific loan of £S 10 million allocated to public utilities, and the financial statements of the Damascus and Aleppo public utilities each mention loans to £S 7 million, although in the latter case the loan was for all four of the utilities' operating branches—electric power, water supply, streetcars and buses.

Moreover, although in addition to the equipment purchased abroad, a

quantity of used and army surplus equipment was utilized in the smaller 377
towns and villages, complete records of these operations are not available. 655

The best assessment the mission can make of power investment in Syria is to start with the conservative cost estimate of £S 450 per KVA for diesel-driven sets, and £S 7.5 million for the only steam plant in Syria with transmission lines and transformer stations. On this basis the cost of the 46,000 KVA of the former and 12,500 KVA of the latter, added to £S 1 million for the Amir Ghajar hydro turbine generators and £S 2 million for development of the networks, give a figure of about £S 25 million. This should, however, be taken as an indication of the order of magnitude rather than as an approximation of actual investment.

II INDUSTRIAL POWER 377

A statement of present and expected power consumption in the leading Syrian industries is necessary for an assessment of the anticipated power requirements of the country as a whole. The factories discussed below rely mainly upon their private power supplies, a situation which is likely to change somewhat as additional public utility projects are completed.

Cement

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The two cement factories at Damascus and Aleppo are among the most 339
important industrial power consumers. In 1953 their output was 171,000 and 72,000 tons, respectively; it is expected that output will rise to 253,000 and 150,000 tons by 1955. At an average consumption rate of 90 KWH per ton, this total of 403,000 tons would require about 36 million KWH.

To meet the 1953 demand for about 22 million KWH the two factories had plants of 4,600 and 3,000 KW capacity, respectively. The Damascus factory, unlike that in Aleppo, is connected with the public utilities network, thus permitting the future transfer of cheap hydroelectric power from the projected Barada plant. The Aleppo plant may insure itself against a breakdown of its own equipment through a link with the steam plant now under construction, but as soon as cheap hydro power becomes available from the Youssef Pasha project, it can be assumed that the factory will turn to the public utilities network for at least part of its power requirements.

Textiles

377 The entire output of yarn is spun in the large factories but almost half
288 the cloth produced is woven on hand looms.[2] It is estimated that on a basis of 1.3 KWH per kilogram for spinning and 1.0 KWH per kilogram for weaving, the total power requirements of mechanized textile plants approximate 21.1 million KWH annually.

Most of the large factories (with one important exception) generate their own power from their total installed capacities of 2,200 KW in Damascus and 2,500 KW in Aleppo. This is more than adequate for the demands of the larger spinning and weaving factories, estimated at 15.8 million KWH, though some plants do in fact purchase some power—to the extent of about 2.6 million KWH—from the public utilities network. On the assumption that the power used by the small factories is drawn wholly from municipal supplies, the total power consumption of 21.1 million KWH for textile spinning and weaving is furnished by private plants to the extent of 13.2 million KWH, and by the public utilities to the extent of 7.9 million KWH. The 6.6 thousand tons of cloth at present woven on hand looms may be regarded as a potential power demand for 6.6 million KWH from the public utilities, giving an aggregate potential demand by textiles for a minimum of 27.7 million KWH, of which 14.5 million KWH would be supplied by the public utilities.

It is expected that the textile industry will continue to expand, though possibly at a slower rate, requiring about 2 million additional KWH by 1960.

Ginning

377 In 1953 about 50,000 tons of lint were produced and ginned in Syria.
248 With an average power consumption of 100 KWH per ton of cotton ginned and baled, this would require about 5 million KWH.

Four-fifths of the gins are located in Aleppo, the remainder being in Homs, Idlib, Latakia and Damascus. The most important ginning factory in Aleppo has its own power plant with a capacity of 1,500 KW, but the majority of the other plants have recourse to the public network. It can be assumed that about half the total required power is supplied by private plants and half by the public utilities.

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[2] 1952 production: yarn, 9,000–10,000 tons; cloth, 14,000–15,000 tons.

An increase of about 60% in cotton production is expected by 1960, but present power capacity appears adequate to meet this expansion. 377 248

Glass

The Damascus glass factory owns a 600-KW power plant. The total productive capacity of the factory is about 43 tons of glass per day; in 1953 about 3,000 tons of glass were actually produced, representing about 70 days output at full capacity. If a consumption of about 100 KWH per ton of glass is assumed then the generated power in 1953 would have been about 0.3 million KWH. 377 323

Cold Storage

A cold storage plant in Damascus has a 500-KW power plant interconnected with the public utilities network. It can be assumed that about half of the approximately 2 million KWH required annually is supplied by the public utilities and half by the factory's plant. 377 254

Oil Mills

Two Aleppo oil mills have private power plants, the larger with a capacity of 1,200 KW, the smaller with 300 KW. These factories work only about 150 days per year (say six days per week during six months). With one-third of the capacity in reserve and an assumed load factor as low as 10% the power generated per year would be about 1.5 million KWH. 377 318

Flour Mill

A flour mill in Aleppo has a 400-KW plant. With a utilization of two-thirds of the capacity for 6,000 hours the power generated would be about 1.2 million KWH. 377 256

Sugar

In 1953 the Homs sugar factory processed 7,000 tons of sugar from beets and refined 22,000 tons from raw sugar. Power required for the former 377 257

377 was stated to average 72 KWH per ton (this is very low compared with 257 the 120-150 KWH generally required for this process); power for refining would not exceed 20 KWH per ton. The factory's 2,000 KW steam generators are interconnected with the public utilities network, allowing about 250 KW to be supplied or received according to the relative needs and availabilities in the two systems.

The above figures on beet and raw sugar processing indicate (at 72 and 20 KWH per ton respectively) that some one million KWH were generated for these purposes in 1953, exclusive of power supplied to the Homs-Hama network.

It is anticipated that sugar beet extraction will increase from 7,000 tons to some 20,000 tons by 1960, requiring an additional one million KWH.

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Dyeing

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The Hama dyeing plant's 435 KW generators are not connected with the public utilities network. The power generated by this plant in 1953 is estimated at about 0.6 million KWH.

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Conclusion

The power generated by private factory power plants in 1953, equal to about one-third of that generated in the plants of the public utilities, was therefore distributed approximately as follows:

	Million KWH
Cement factories	22.0
Textile factories	13.2
Ginning factories	2.5
Glass factory	0.3
Cold storage plant	1.0
Oil mills	1.5
Flour mills	1.2
Sugar factory	1.0
Dyeing factory	0.6
Total	43.3

Future power requirements will be largely conditioned by the development of the cement, textile and beet industries, for which, as indicated above, additional power to the extent of approximately 14.2 and one million KWH respectively will probably be needed. The other industries specified are not expected to need substantial additional amounts of power. 377

On these assumptions the output of the private power plants would need to increase from about 43 million KWH to some 60 million KWH by 1960, but it is more than likely that at least part of the necessary increase will in fact be drawn from the public utilities network.

III THE MISSION'S PROGRAM

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The period 1949-53 showed a mean annual increase of 14.2% in the generation of public power. The actual percentage of increase over the preceding years was as follows: 377

1950	1951	1952	1953
19.4	7.8	14	16.2

The figure for 1951 reflects the effect on Syrian industry of the cotton crisis. Taking all factors into account, it would not be unreasonable to expect a continued average yearly increase of 14% between 1953 and 1960. On this basis about 300 million KWH would be generated in 1960 and since the load factor is not expected to improve, the peak load would probably be about 85,000 KW, requiring a minimum installed capacity of some 106,000 KVA. This means that some 60,000 KVA must be added to the approximately 45,000 KVA (34,350 KW) presently available plus a reserve of 20-25%.

It is believed that in 1945 there was a total installed capacity of about 13,000 KVA, able to generate 10,400 KW. During the eight succeeding years the increase was about 31,776 KVA, or 23,950 KW—an increase of some 245% or an average rate of 17% per year. Although this has not been sufficient to keep pace with rising consumption demands, it would lead to a total installation of 130,000 KVA if continued until 1960. This would give a margin of 23% over the anticipated minimum peak load for that year, which should be quite satisfactory for a country where there is practically no interconnecting network and where a large number of small generators is the rule (e.g., 18 in Damascus for an installed power of 16,500 KVA, and seven in Aleppo for 15,000 KVA). On the principle that

371 each network should have in reserve a capacity equal to that of the largest
377 generator, Syria's present reserve requirements would total about 10,000 KVA, equal to 22% of total installed power. The reserve requirements have not been met in the past, although the situation will be greatly improved by the addition of the 14,610 KVA scheduled to start operating during 1954.

Damascus

In the Damascus area the annual increase in consumption has averaged only 10.8% over the last five years. It seems, therefore, that the peak load is unlikely to exceed 30,000 KW by 1960. This would call for a capacity of about 37,000 KVA, compared with the 16,500 KVA installed at present. The new Hameh steam plant, due to start operating at the end of 1954, would raise present capacity to 29,000 KVA and when the Souk Wadi Barada hydroelectric plant is completed in 1956 total installed power will be 37,000 KVA. In view of the fact that the Damascus diesel plant is 22 years old, the mission recommends that additional capacity of about 12,500 KVA (10,000 KW) be added to provide an adequate reserve.

There are three possible ways to provide the additional capacity. One is to install an extra set of 12,500 KVA in the new Hameh steam plant. Another is to construct new hydroelectric plants; and a third is presented by the possibility that a beginning will shortly be made on the Yarmuk power project by the Jordan Government, in which case, under the terms of an agreement with Jordan, Syria would receive 5,000 KW annually in return for an investment of 5% of the cost of the project. But to supply the balance of 5,000 KW to meet the needs of Damascus would require the installation of an additional set of 5,000 KW in the Hameh steam plant and the laying of a transmission line to the Yarmuk plant. This would cost about £S 15 million and would be the most expensive of the three choices. Of the remaining alternatives, the mission considers construction of hydroelectric plants preferable, since the need is for peak power rather than a large and steady output. Elsewhere the mission has recommended construction of reservoirs for irrigation purposes at Deir Makaren and Hameh, and it recommends that hydroelectric plants with a capacity of 10,000 KW be located at these two points, thus harnessing the power which can be developed on the Barada by construction of the two dams.

These plants would supplement the Souk Wadi Barada project. They 371
should cost only about £S 6 million. 377

Aleppo

Aleppo's consumption has grown far more speedily than that of Damascus. It is estimated that by 1960 the peak load in the Aleppo area will be about 32,175 KW, requiring an installed capacity of about 42,900 KVA.

The present installed capacity of 15,000 KVA is 27,900 KVA short of the 1960 target. Since construction of the Youssef Pasha hydroelectric plant will start as soon as funds become available, making it inadvisable to overequip Aleppo with thermal plants, no provision was made for a reserve.

The mission recommends the installation in the new steam plant not only of the first stage of 12,500 KVA, but of a second stage of 12,500 KVA and eventually a third stage of 6,250 KVA. The total cost of the second and third stages would be around £S 9 million. Some difficulties might arise toward 1960 but conditions should not be worse than at present. If consumption develops in the manner anticipated, profits from the steam plant will be large enough to give the Youssef Pasha project an earlier start.

We have considered the proposal that the additional thermal plant be located at Homs rather than Aleppo and that a transmission line be built to link such a plant with Aleppo. It has been argued that a plant at this location would provide standby and "peaking" capacity for both Aleppo and Damascus when Syria's hydroelectric resources, including those at Youssef Pasha, are developed and a national grid can be constructed. In addition, fuel oil at Homs would be cheaper and a more plentiful and cheaper supply of water would be available. While the arguments in favor of Homs appear persuasive, we have nevertheless recommended that the plant be built at Aleppo. It would be rather risky to erect a power station at a distance of 190 kilometers from the city it is designed to serve. Moreover, the losses in transmission plus the annual charges on the transmission line, which is likely to require an investment of £S 7 million, will probably offset the economies in operating costs resulting from the establishment of the plant at Homs.

Homs-Hama and the Ghab

The Homs-Hama area is important as the nucleus of a future inter-

371 connecting network which would extend over a large part of Syria. In
377 particular, it is expected that construction of the Ghab irrigation project will soon lead to increased activity in the area of Hama.

In the general area of Homs-Hama and the Ghab, several hydroelectric plants are proposed by the government, but none is scheduled to be begun before 1960. Even the dismantling of Amir Ghajar, which would be flooded by the Rastane dam, and its relocation at the foot of Rastane, is not scheduled to start before 1962. Most of these hydroelectric plants could operate only when water is not needed for irrigation and would therefore need to be supplemented by thermal plants of equal capacity. This is also true of the Roudj hydro plant and the Rastane siphon and hydro plant. Such projects are economical only when they can be connected with a well-developed grid system. The Homs Lake hydroelectric plant would at least have the eight cubic meters per second available to the Rastane plant even in the dry season, but the head is very low and the amount of power generated is therefore not very significant. Moreover, the mission's proposal for the Ghab area would lead to an increase of power for the Homs-Hama area. Accordingly, these projects have not been included in the mission's program.

With respect to the Ghab, the mission has the following comments. The area of Jisr ech Choghour, because of its location at the outlet of the Ghab valley and on the main road from Latakia to the interior of Syria, will probably develop rapidly during the next few years. During the construction of the Ghab project it will be a supply center and a suitable site for repair shops and material storage for the contractors. This development would be facilitated if Jisr ech Choghour were provided with adequate power and the ability to transmit part of it along the Ghab valley to supply the villages and construction contractors. This would entail the installation in Jisr ech Choghour of an adequate power plant and a transmission line along the Ghab valley to Hama, where it would connect with the Homs-Hama transmission network. Further, because of the length of the interconnection, it would be necessary to build in Hama a second power plant of about the same capacity to ensure stability. The construction of the hydroelectric plant of Jisr ech Choghour was postponed for the reason that it would have been unable to provide enough firm power. The mission recommends that diesel plants with a capacity of about 2,000 KVA each be built in Jisr ech Choghour and Hama and that a transmission line be run between these plants via Karkour, Kalaat el Moudiq, Acharneh and

Maharda. Each of the diesel plants would cost about £S 1.5 million and 371
the transmission line would cost £S 3 million. 377

Latakia

The proposed construction of an improved harbor will accelerate the development of Latakia. To meet resultant increased power demands, the mission supports the immediate construction of a diesel power plant in Latakia with an installed capacity of 2,500 KVA as first stage, at a cost of £S 1.5 million. Elsewhere the mission recommends the construction of a multi-purpose reservoir on the Nahr el Kebir for flood control, power, water supply and irrigation. For these reasons, the construction of the Nahr el Kebir power plant is included in the mission's program with an equipment of 2,500 KVA as first stage, at a cost of £S 5 million. These figures are approximate because the studies of this project have not yet been completed and therefore no accurate data are available.

Deir ez Zor

The growth of Deir ez Zor will follow upon the agricultural development of the lower Euphrates valley. In this town the mission supports the immediate construction of a diesel plant with an installed power of 2,000 KVA at a cost of about £S 1 million for the first stage.

Other Areas

It can be assumed that even at a conservative estimate consumption by the 49 smaller towns and villages which now have electricity will increase at the rate of at least 15% per annum, requiring the generation of about 16 million KWH by 1960. In view of the fact that the peak load already utilizes the full power capacity, additional equipment will be needed to meet the demand.

The mission therefore supports the program for the construction in the small towns and villages of 25 new networks, 10 with an installed power of 285 HP each and 15 with 225 HP, aggregating about 5,500 KVA; total cost would be £S 4.7 million. The mission also recommends the installation of about 2,500 KVA at a cost of approximately £S 1.5 million to carry on the program of improving existing utilities.

IV ELECTRICITY TARIFFS

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As stated in the Main Report, tariffs for electricity used for lighting of houses and shops are not excessive, except in the small towns. They range from about 16 to 25 piasters per KWH, or about 4.5 to 7.0 U. S. cents;[3] in the small towns they are on the high side of the range and are said to be as high as 50 piasters per KWH in some places. Sometimes the tariff takes the form of a uniform charge. In Damascus, however, the tariff was until recently on a downward sliding scale, the charge varying inversely with consumption; since 1953 it has been on a two-step progressive basis, the heavier consumers paying more. The change in tariff structure was made as a protection against an exaggerated peak load but has had the unfortunate effect of discouraging use of electrical appliances by small consumers. While such a policy may be justified as long as demand exceeds supply, as soon as installed power measures up to demand the Damascus tariff policy should be revised to encourage domestic consumption.

Charges for electricity for power vary with the area, the subscribed power and the consumed power. The range is between 4.66 and 18 piasters per KWH, the low rate of 4.66 piasters applying only to high utilization of subscribed power in the area of Homs-Hama where there is a hydroelectric plant. The average rate is between 10 and 12 piasters per KWH. Surcharges are imposed on consumption during peak hours. To all these rates, a municipal tax of 10% is generally added.

These rates are high compared with charges in other countries. Table 5 compares the rates paid by an Aleppo industrial consumer with those paid by comparable consumers elsewhere.[4]

Many Syrian consumers complain about the cost of electricity in comparison to the lower rates applicable in neighboring countries in general and in Lebanon in particular. The mission is not in a position to judge whether the basis on which charges are fixed in Lebanon is sound. However, Lebanon has the advantages of a hydroelectric power output equal to more than half of the total power supply (compared with less than 25%

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[3] Prices of electricity (in U. S. cents per KWH) for monthly lighting consumption of 15 KWH (1951): New York, 6.33; Zurich, 8.15; Paris, 4.65; London, 5.80; and Colombo, 8.30. (SOURCE: International Bank's Mission to Ceylon.)

[4] Rates for other countries are at the 1951 level.

in Syria), proximity of most of the thermal stations to pipeline outlets, and 366
a well-developed consumption pattern operating from an interconnecting 377
national grid. Some of these favorable conditions will be present in Syria in due course, although the handicap of limited natural resources will remain. The fact that many power users are unsatisfactory consumers, in that they provide a very low load factor, also contributes to high power costs in Syria. The most extreme illustration is provided by seasonal industries, such as ginning, which require large investments in power capacity for only a few months' consumption each year. In such cases the return would be very poor if power were sold at specially low rates for so limited a period.

TABLE 5 Comparative Industrial Power Rates

(U.S. cents per KWH)

	30 KW, 200 hours per month	300 KW, 250 hours per month
New York	4.19	2.40
Aleppo	2.53	2.22
Zurich	2.35	1.27
London	1.79	1.59
Colombo	1.80	1.30

According to the profit and loss accounts provided by the public utilities of Damascus and Aleppo, the gross return per KWH sold in 1953 was 13.6 piasters in Damascus and 12.8 piasters in Aleppo. The costs of operation of the power plants, including maintenance and repairs but excluding financial charges, were 3.18 piasters per KWH for Damascus and 4.82 piasters for Aleppo. The lower figure for Damascus is due mainly to the fact that about one-third of all power is generated in hydroelectric plants, but also to the higher efficiency of the diesel equipment. The operating costs in the hydro plants are only about 0.4 piasters per KWH sold, compared with 4.5 piasters in the diesel plants. Moreover, in the diesel plants fuel represented about 66% of the total operating cost in Damascus and 78% in Aleppo. The price of fuel oil and the efficiency of the diesel generator sets are therefore very material factors in the final price of electricity produced in thermal plants.

According to the accounts, the total costs per KWH sold and distributed were 7.25 piasters per KWH for Damascus and 5.35 piasters for

365 Aleppo. This would mean that distribution costs would amount to 4.07 377 piasters per KWH in Damascus and only 0.53 piasters in Aleppo (excluding financial charges). This large difference can be partly explained by the fact that the personnel expenditures for Aleppo are exclusive of clerical and management personnel, while on the other hand the figure of £S 1.2 million quoted for Damascus is probably too high. One of the difficulties is that clerks and management personnel are common to the several activities of the public utilities—power, streetcars and water supply in Damascus, and power, streetcars, buses and water supply in Aleppo.

According to the accounts, the 1953 gross profit of the Damascus electric utilities was £S 2.4 million and £S 2.75 million for those in Aleppo, although the facts with respect to personnel costs would indicate that the true Damascus figure is higher and that of Aleppo lower. In any case these are large returns for the two public utilities even if the actual value of each were as high as £S 10 million. Not only are these public utilities self-supporting but they are able to finance at least part of the projected development schemes, a factor which has led the mission to recommend no reduction in power tariffs as long as large capital investment is needed.

As the proposed program gets under way, the replacement of diesel by steam plants will reduce the cost of fuel by about one piaster per KWH sold, since the cost of gas oil is about £S 103 per ton, compared with about £S 60 per ton for fuel oil, taking into account the decrease in efficiency. Therefore, pending completion of the Youssef Pasha project, earnings in the Aleppo area would not exceed one piaster per KWH, even when the steam plant is able to generate the bulk of the needed power.

In Damascus the increase in earnings resulting from the power development program would be about the same as in Aleppo. While savings realized by the shift from diesel to steam power would be less because the plant to be displaced in Damascus is more efficient than that in Aleppo, large economies would flow from the shift to hydroelectric power. But a large reduction in the cost of electricity for Syria as a whole can be expected only after completion of the main hydroelectric projects and construction of an interconnecting network based on the line Youssef Pasha-Aleppo.

ANNEX H

NOTES ON TRANSPORT AND COMMUNICATIONS

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1 RAILWAYS

A RAILWAY SYSTEMS

The Northern Railway consists of 248 km. of trackage, 19 aged locomotives and other rolling stock as shown in Table 1.[1] Traffic is rather light, 55 million ton-kilometers in 1953, including goods in transit.

TABLE 1 Rolling Stock of the Northern Railway

Year built	Locomotives		Passenger luggage		Freight wagons			
	Line	Yard	Cars	Vans	Closed	Open	Special	Total
1901–15	13	2	4	4	345	162	96	603
1916–30	—	—	5	1	—	—	—	—
1931–45	4	—	2	—	—	46	—	46
1946–53	—	—	—	5	17	—	—	17
Total	17	2	11	10	362	208	96	666

Under an agreed system, settlements are made by Turkey for carriage of her goods over the Syrian portions of the line and vice versa. With so much of the route in Turkish territory, Syria's heaviest shipments, between the Jezireh and Aleppo, represent comparatively little revenue for the Northern Railway. For example, the tariff for transporting a ton of grain from Kamichliye to Aleppo is £S 24.50, of which about £S 19 accrues to the Turkish railway administration. While this debit is partially offset by reciprocal credits for Syrian transport of Turkish goods, the exchange rates used in the settlement of accounts between the two railways operate to the disadvantage of Syria, causing the Northern Railway a net loss, for

[1] To handle the peak harvest load, for which its rolling stock is insufficient, the Northern Railway has made a practice of hiring 100 extra wagons seasonally from the Iraqi railways. These are further supplemented by an average of some 200 Turkish wagons borrowed at frontier stations for temporary Syrian service.

instance, of £S 462,000 in net operating income during the year 1953.

The DHP railway network has been operating at a loss for some time. In accordance with agreements between the railway company and the Lebanese and Syrian governments, the latter two must cover such losses equally. In 1952 Syrian payments on this account amounted to £S 500,000 or roughly one piaster per ton-kilometer of freight carried.

The Hedjaz Railway now serves mainly to link Amman, the Jordanian capital, with Damascus and, via the DHP line, with Beirut. The Syrian portion, 140 kilometers long, passes through Dera'a, where there are two short lateral branches on Syrian soil. One of these goes eastward to Basra. The other parallels the border westward and once continued to the coast at Haifa, but now ends near the Israeli frontier, where its bridge was destroyed in 1948.

In 1953 the Syrian portion carried 6,742 pilgrims over 951,000 passenger-kilometers, but other passenger traffic brought the total to 15.218 million passenger-kilometers, two-thirds of which was local internal travel. Freight transport during 1953 amounted to 23.406 million ton-kilometers, of which about 93% was in transit internationally and nearly 80% came over the DHP connection.

While many of the rates on all Syrian railways are below cost, those on the Hedjaz line are exceptionally low. This fact, together with a less-than-optimum volume of traffic, has undoubtedly contributed to the growing operating deficit in postwar years. From March 1945 until the beginning of 1954 the Syrian government had met or assumed obligations of this railway aggregating £S 2 million.[2]

Besides taking steps to bolster passenger revenue, the government has tried to support rail freight since 1953 by prohibiting transport by road of a considerable variety of commodities in transit to and from Jordan.[3]

Taken together, the three Syrian railways provide a network of 852

[2] In addition to paying the operating deficits, the government guaranteed a loan from the Banque de Syrie et du Liban to the Hedjaz Railway for reconstruction of its spacious Ain Building in the center of Damascus.

[3] By agreement with Jordan, truck transport must be permitted for: (1) goods from Syria to a third country via Jordan; (2) goods, except wheat and phosphates, from Jordan to a third country via Syria; (3) Syrian imports via Jordan; (4) perishables from Lebanon to Jordan; (5) perishable imports for Jordan through Lebanese ports; (6) machinery and spares in transit via Lebanon; (7) petroleum products; (8) all imports for Jordan via Syrian ports; (9) supplies for refugees; (10) motor vehicles; (11) Syrian exports to Jordan and vice versa; (12) any freight to or from Jordan via Lebanon for which the railway cannot provide proper service; and (13) any other categories on which the customs of both countries may agree.

route-kilometers, comprising 545 kilometers of standard-gauge line and 307 kilometers of narrow-gauge. Except for the necessity of reloading where the track gauges change, passage is possible from any part of the system to any other, although not without leaving Syrian territory. The combined Syrian rolling stock on this network at the end of 1953 included 147 locomotives and 2,150 cars of all types, distributed as shown in Table 2. #97

TABLE 2 Rolling Stock of Syrian Railways, 1953 #93

	Standard-gauge			Narrow-gauge		
	DHP	NR	Total	DHP	Hedjaz	Total
Locomotives	66	19	85	36	26	62
Passenger and luggage cars	58	24	82	84	33	117
Goods wagons	518	607	1,125	343	327	670
Tank wagons	15	58	73	4	23	27
Other wagons	5	43	48	3	5	8

SOURCE: Statistical Abstract of Syria, 1953. For the Northern Railway figures differ slightly from those of Table 1 because of different inventory dates.

B FREIGHT AND PASSENGER TRAFFIC

#97

The volume of freight traffic handled by the three railways declined from 138.56 million ton-kilometers in 1938 to 86.54 million in 1949, but recovered to 130.44 million by 1953. The composition of the cargo transported in recent years is given in Table 3. The importance of agricultural

TABLE 3 Freight Carried by Syrian Railways, 1951–53

	Tons			% of total		
	1951	1952	1953	1951	1952	1953
Cereals and flour	380,406	460,650	462,295	38.6	45.1	45.7
Livestock	63,922	45,054	56,381	6.5	4.4	5.6
Other agricultural produce	48,653	44,254	53,874	4.9	4.3	5.3
Petroleum products	86,082	95,753	110,588	8.7	9.4	10.9
Cement and other building materials	109,224	66,357	83,422	11.1	6.5	8.2
Other	298,228	308,188	245,495	30.2	30.3	24.3
Total	986,515	1,020,256	1,012,055	100.0	100.0	100.0

NOTE: The total tonnage carried is exaggerated to the extent that a portion of the cargo is handled by several railways.

497 commodities is reflected in the seasonal fluctuations of the traffic as shown in Figure 1.

The volume of passenger traffic, after reaching a record low in 1950, has also recovered slightly in recent years, as shown by Table 4. In 1953, however, it was still only a little over one-third of the prewar traffic. All of the losses have been suffered by the DHP system.

TABLE 4 Railway Transport of Passengers

(Million passenger-kilometers)

Year	DHP	Hedjaz	Northern	Total
1938	100.8	13.0	4.7	118.5
1947	40.2	7.6	10.1	57.9
1948	38.8	7.5	5.2	51.5
1949	17.0	7.6	5.1	29.7
1950	11.2	5.4	5.3	21.9
1951	12.5	6.0	6.3	24.8
1952	13.4	10.6	5.8	29.8
1953	16.2	15.2	5.6	37.0
1953 as % of 1938	16.0%	116.7%	119.3%	31.2%

C RAILWAY PROPOSALS

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Conversion of Gauges

Several proposals aimed at unification of the rail network have involved the conversion of narrow-gauge lines to standard width. A 1907 project called for standard-gauge construction from Beirut to Rayak, with a 5,360-meter tunnel near Hammana, at a cost of 61 million gold francs. Rejected because of its expense, this scheme was revived in 1932 in connection with a proposed electrification. A similar scheme, but with a shorter tunnel (3,985 meters), envisaged a standard-gauge line from Beirut to Damascus, whose cost today would be at least £L 140 million.

In 1945 the Syrian government studied the possibility of adding a third rail to the narrow-gauge line from Rayak to Damascus and found the cost to be £S 18 million to £S 23 million. An alternative Damascus-Homs railway through Syrian territory, via Kariatein and Forqloss, was esti-

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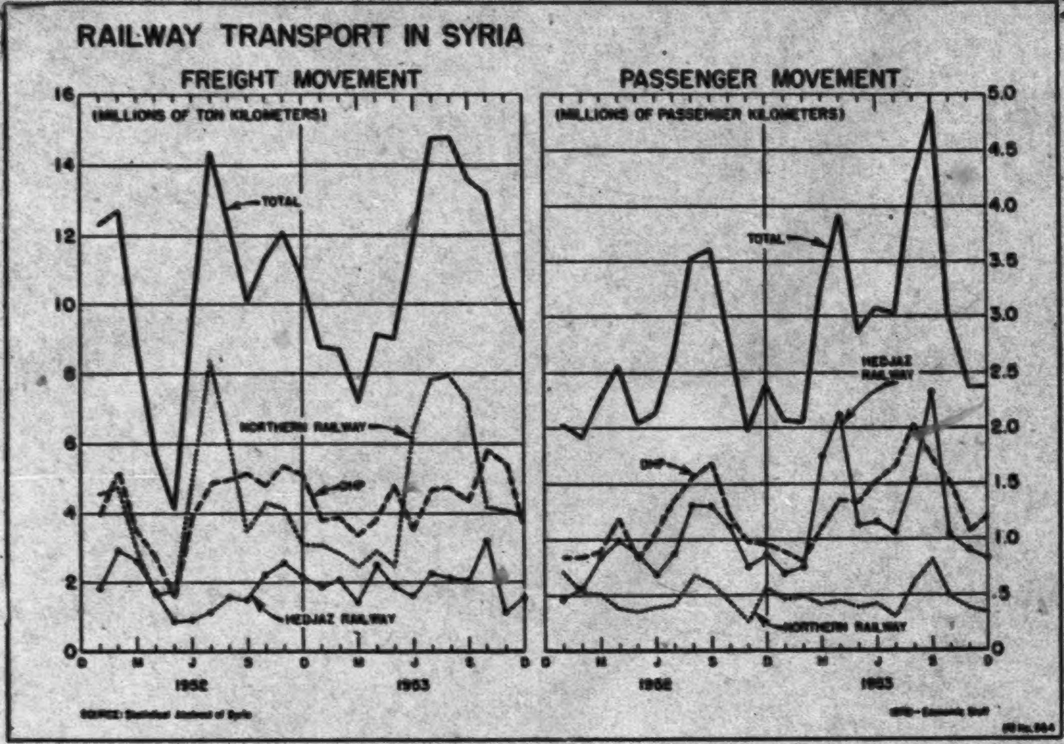

RAILWAY TRANSPORT IN SYRIA

SOURCE: Statistical Abstract of Syria

IBRD—Economic Staff

496 mated to cost about £S 36 million and was preferred, but neither project was carried out. There have also been proposals for converting the Hedjaz Railway to standard gauge as far as the border (£S 11 million) and for building an entirely new line south of Damascus at a cost of about £S 34 million.

It is difficult to justify the cost of any of these projects today on the basis of traffic analysis. At present the most important freight movement over the narrow-gauge lines is between Beirut and Jordan, and for this reason the conversion of any part of the system without the rest would only create an obstacle. For pilgrim traffic the same is true, especially in view of current plans to restore the Hedjaz line to Medina. Indeed, the mission feels that when the government acquires the DHP system it may prove more advantageous to turn its narrow-gauge trackage over to the connecting Hedjaz Railway as a natural extension of that line.

Electrification

On a number of occasions it has been asked whether electrification of the Syrian railroads would help to reduce operating losses. The problem has been studied carefully in the case of the DHP narrow-gauge line, both for its entire length and from Beirut to Rayak. Calculations have shown the cost to be prohibitive.

Electrified railways call for expensive installations and high maintenance costs. Under ordinary circumstances economical operation of such lines requires not only cheap power but a dense traffic pattern. Short hauls and frequent schedules with small units (as in metropolitan suburban service) or high-revenue transport on longer hauls are among the favorable factors sought. Perhaps in time these conditions may develop in appropriate Syrian localities. Within the near future, however, it is unlikely that circumstances in any part of Syria will permit railway electrification on an economic basis.

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D RAILWAY VS. ROAD DEVELOPMENT

Syria's principal transport problem is how to provide the most efficient and economical method for moving the large volume of goods across northern Syria between Jezireh and Aleppo and Latakia. Since at present neither the existing railway nor the highway systems can cope with this problem satisfactorily, the question is posed whether a new railway should be built or a new highway network constructed.

A comparison of the economic advantages of rail and road transport today, in any part of the world, is valid only for a specific situation. Both transport media have their distinctive merits, whose relative significance in a given case may tip the scales one way or the other. Their costs, likewise, depend upon local conditions. Thus in examining this problem with respect to Syria—and more especially to the movement of goods between the Jezireh and Latakia—the mission stresses that its calculations and conclusions are offered for this particular situation and not as a universal answer to the "rail vs. road" question.

For the same reason we do not include an exhaustive review of the classical arguments favoring one mode of transport over the other. While taking these abstract comparisons into account, we feel that they are generally recognized and in any event adequately presented in the current technical literature. Those which are mentioned here are chosen for their special interest to the Syrian problem.

General Considerations

A railroad requires a large capital investment but is characterized by long amortization and low operating costs. The initial cost of a road may be much less, especially if the simpler types of construction are acceptable, but its maintenance is proportionately more expensive. How these figures compare for northern Syria will be examined in later pages.

Apart from costs a railway offers a somewhat better guarantee of year-around transport regardless of seasons or weather conditions. This is partly inherent in its construction, but a contributing factor is that railway maintenance is necessarily more exacting, is less likely to be entrusted to crews lacking technical skill, and must be performed promptly if schedules are to be maintained. In a railway, the same entity has responsibility for scheduled transport and for maintenance-of-way; in trucking these responsibilities are separate. Thus we might conclude that a railway affords greater security in meeting shipping connections if these are critical.

All of this presupposes, of course, a railroad which tries to and does maintain a high record of scheduled performance. Even with an efficient administration there may be strikes and similar interruptions beyond the administration's control. In highway transport these are less likely to occur, or if they do they seldom cause complete stoppages, for trucking is carried on by many independent operators, while railway labor, under a single employer, is apt to be tightly organized. By the same token railway labor may enjoy certain social benefits (wage levels, security, medical care, pensions, etc.) which are not so easily provided for independent truckers. This is partly because of organization and partly because a railroad requires less manpower to move a given tonnage. Viewed another way, however, this means less employment in the transport sector.

Rail freight rates are more easily stabilized and controlled, in contrast to the wide seasonal variations in rates now demanded by Syrian truckers. On the other hand the higher free-market truck rates may, on a year-round average, reflect more closely the actual cost of the service. As long as the Syrian railways operate at heavy losses which must be made up in taxes, their lower rates are misleading.

Ability of the government to control the rates of a railroad (especially of a government-owned one) permits manipulation of transport charges in favor of specific commodities, producing areas or shipping points. This power is often cited as an advantage, and when reasonably employed can be a useful implement to assist economic stability or development. Unfortunately it may just as readily be used for political purposes to stimulate production at economically unsound locations.

A popular general argument for trucks is that they permit continuous "door to door" transport without reloading. Under many circumstances this factor can be decisive but only if transshipment is not otherwise required by reason of trade patterns (as now at Aleppo), customs inspection, or restrictive legislation (see Road Transport). In any event its importance to Jezireh agricultural exports is questionable. In most cases crops must be transported separately from field to collection point, whether the later long-distance hauling be done by rail or road, and either form of transport can deliver as easily to shipside if its line runs to the port.

Roads, of course, are more readily adaptable to changing patterns of production. Countries in transition, especially, must keep in mind that economic planning cannot be omniscient and that development may take place in ways other than expected. There have been instances of costly railway construction, seemingly justified at the time, afterward left without revenue because of some unforeseen new development, shift in productive areas, or depletion of a local natural resource. But usually it is a feeder line that is most vulnerable to such misfortune. Here the question is one of a trunk route linking a broad productive region with centers of trade and export shipping; the gamble is smaller. Syria's feeder lines, for some years into the future, will certainly be roads rather than branch railways.

One great distinction between railway and highway development lies in the construction schedule. If necessary a workable road can be built quickly as a mere earthen track. Thereafter year by year it can be progressively gravelled, widened, oiled, paved, perhaps widened again, equipped with stronger bridges,[4] and so on as the need arises and resources become available. With a railroad this principle of gradual construction is possible in certain limited respects, such as later double-tracking a single-track line, installing heavier rails or adding to the rolling stock. But to be workable a railway must be installed as a more or less complete unit, with rolling stock and an operating staff, and its construction should be good for at least 50 years of service with normal maintenance.

Special Syrian Conditions

Cargo from the Jezireh being so seasonal, it is sometimes argued that trucks have the advantage of being usable in other regions during the off-season. But this argument ignores the fact that the demand for transport in other parts of Syria is likewise governed by the harvest.

Of greater significance is the prospect of transporting commodities such as grains in bulk rather than in sacks. The cost of imported sacks and the extra labor of filling them cut appreciably into the profit on local produce. Here the advantage lies with railways. Bulk shipment by truck is technically feasible but calls for a higher degree of responsible organization than now exists in most of the Syrian trucking industry. Moreover, bulk transport requires particular types of vehicles, limiting their usefulness for alternative cargo and accentuating the need for a more constant year-round movement of commodities to keep them profitably occupied.

For the transport sector, as for the Syrian economy as a whole, one of the broad aims of development must be to reduce the exaggerated seasonal character of the country's economic life. Neither rail nor road transport can be operated cheaply with costly equipment and facilities idle a large part of the year. Accordingly the mission's recommendations for crop storage facilities in the Jezireh and at Aleppo and Latakia (see the section

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[4] In some countries today an initially narrow road is built with wide bridges and culverts, saving costly replacement and traffic interruptions when the road is widened.

489 on Ports in this Annex) are no less essential to a solution of the east-west transportation problem than they are to improvement of the farmer's marketing position.

Comparative Cost of Rail and Road Transport

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494 In the specific case of transport across northern Syria, we have tried to determine the comparative cost to the economy of road and rail transport in terms of depreciation of the capital investment, maintenance, fuel and supplies. Depreciation on railway rolling stock has been figured on the basis of 30 years' life, on motor vehicles on the basis of 7 years' life. No allowance has been made for depreciation of the investment in permanent way for the projected railway because the life of the rail roadway may be considered virtually indefinite with normal maintenance and renewals. (The latter are included under "Maintenance" in Table 5.) We have assumed, however, that with the development of heavier and speedier motor vehicles, a highway would be obsolescent within 30 years and require complete reconstruction. As already indicated in the mission's Main Report, we have assumed a freight movement of about 700,000 tons from Jezireh to Aleppo, of 150,000 tons from Aleppo to Jezireh, of 500,000 tons from Aleppo to Latakia and of 250,000 tons from Latakia to Aleppo. Of this total traffic of somewhat over 400 million ton-kilometers annually, a new railway might be expected to carry about two-thirds. The comparative investment would be about £S 170 million, including £S 24 million for rolling stock, for a railway and perhaps £S 97 million, including £S 40 million for some 800 12.5-ton trucks, for road transport.

Table 5 shows the results of our calculations. They leave no doubt that rail transport would be much more economical than road transport. The estimates are, of course, subject to a margin of error; and the annual savings in costs might best be stated within a range of £S 15 to £S 20 million.

The real question, however, is whether this saving, which is equivalent to an increase in real national income, is sufficient to justify the additional capital investment required by a railway. We have previously estimated this difference in capital cost at £S 73 million. The actual difference, however, is likely to be greater. Even if a railway were built, it would still be necessary to undertake some investment in roads, not only for the construction of feeder roads for the railway, but also for the improvement of existing main routes. The alternative is not rail investment or road invest-

ment but investment in a railway plus some roads or an investment in 497
roads alone. On this basis the first alternative is likely to require a capital 494
outlay of around £S 100 million more than the second.

An amount of £S 100 million could only be found at the expense of other development projects, and probably, in particular, at the expense of irrigation projects which also require much capital. In our opinion, an equivalent investment in irrigation works is likely to contribute almost £S 30 million to national income. Moreover, the increase in primary output as the result of this investment would also bring about an expansion of income in the commercial and transport sectors of the economy which might well be between £S 10 and £S 15 million. Thus the total direct and indirect contribution to national income might reach £S 40 to £S 45 million. It seems to us therefore that the capital investment required for a railway would yield much higher returns to the economy if it were employed for irrigation. In other words, the mission could have found place for a railway in the development program it has recommended only by eliminating a substantial part of the proposed outlays on irrigation and reclamation. A program so altered would have made a smaller total contribution to the economy and was rejected for that reason.

TABLE 5 Annual Cost to the Economy of Rail and Road Transport

(Thousand £S)

	Rail	Road
Depreciation		
Roadway	—	1,900
Rolling stock or vehicles	800	5,714
Maintenance		
Rolling stock or vehicles	1,484	8,200[b]
Roadway	2,380[a]	700[c]
Fuel and oil	600	5,590[d]
Total	5,264	22,104

[a] Including renewals.
[b] Calculated at 17 piasters per vehicle-kilometer.
[c] Calculated at £S 1,000 per kilometer.
[d] Calculated at 19 piasters per vehicle-kilometer.

There is still another, though secondary, reason for preferring a road program to a rail program as a solution of the Jezireh's transport problem. In the case of a railway all the investment funds would have to be furnished by the government, for private capital in such magnitude will simply not be available. On the other hand, private investment is and will be available for truck transport, so that government investment can be confined to road construction. In a country where it is difficult to transfer private savings to public hands this is an important consideration.

The mission has noted a report that a foreign firm would be willing to build a railway on the basis of payments spread over a period of 10 years following completion of construction. It should be pointed out, however, that the contraction of a foreign debt for this purpose might well impair Syria's capacity to borrow for other projects. The mission's proposed development program has already assumed a certain amount of external borrowing. Thus the contraction of foreign credits for railway construction is unlikely to provide Syria with more resources for financing a development program than we have envisaged.

It is sometimes argued that the operation of a railway would require fewer imports on a continuing basis than road transport, and that this would be advantageous for Syria's balance of payments and would also make transport less subject to interruption of foreign supplies in the event of war. There is no doubt that fewer imports would be required for rail transport. However, the savings in foreign exchange thus achieved would be smaller than the foreign exchange earned by the agricultural commodities that could be produced on land which could be irrigated if the additional capital required for a railway were devoted to irrigation projects. Moreover, the fact that a railway would be relatively less dependent on foreign supplies would be an advantage in time of war only if Syria itself were not involved in hostilities; if the war extended to Syrian territory, railway transport would be more susceptible to interruption by bombing than road transport.

II ROAD TRANSPORT

A ROAD SYSTEM AND TRAFFIC DEMANDS

Distribution of Syrian roads by use and type, in 1953, was as shown in Table 6.

The number of motor vehicles in the country has grown about 3½

TABLE 6 Syrian All-Weather Roads, 1953 494

(*Kilometers*) 491

Type	Asphalted	Metalled	Earthen	Total
International and main highways . . .	1,700	290	1,010	3,000
Others of economic importance	600	640	1,000	2,240
Local roads	300	270	2,390	2,960
Total	2,600	1,200	4,400	8,200

times since just before the war, and has nearly doubled since 1948 (see Table 7). Of special significance are trucks and buses, which not only have become more numerous but are constantly increasing in individual size and weight. 494

TABLE 7 Motor Vehicles in Circulation, 1937–53

Type	1937	1948	1951	1952	1953	1953 as % of 1937
Trucks	873	3,443	4,557	4,594	4,742	544
Buses	348	1,081	1,126	1,129	1,212	348
Passenger cars	2,515	3,101	5,444	6,065	7,192	285
Total	3,736	7,625	11,127	11,788	13,146	352

Of the 4,742 trucks registered in 1953, 158 were tankers and 623 were diesels. No statistics are available on sizes, but most of the newly imported ones are from 7 to 12 tons capacity. The aggregate capacity of trucks on the road is probably in excess of 33,000 tons. These figures do not indicate the true tonnage in circulation; a census during the month of August 1953 showed only about 30% of the 24,137 motor vehicles passing the frontier between Beirut and Damascus to be of Syrian registration.

Data of this kind, if carefully and systematically collected, can be a most useful guide in determining where road improvement funds should be invested for greatest public benefit. Only a few local traffic census figures were available to the mission, and while they appear to contain a number of serious discrepancies, they do indicate the order of magnitude

499/ of the traffic load on various routes at certain times of the year. As an aid to sound future development, it will be to the advantage of the Syrian government to place the collection of traffic statistics on an organized scientific basis as soon as possible.

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B ROAD CONSTRUCTION

Most of the main surfaced roads in western Syria are of 5.5-meter width; in the east the five-meter type is more common. Neither is sufficient for safety under present or anticipated traffic conditions. More satisfactory specifications for general use would call for not less than six meters of finished surface and a firm shoulder of 1-1.5 meters on each side. The mission strongly recommends that hereafter this basic design be used for all new construction, repair or reconstruction of major roads.

A number of road surface materials and methods have been used or considered. The most common construction is of waterbound macadam, both with and without an asphalt covering.

Except for such purposes as the construction of "Irish bridges",[5] concrete is seldom used as a road surface in Syria, cement being considered too expensive. The local delivered price was said to be £S 90 per ton in 1953, although the mission was informed that in 1954 cement could be obtained for £S 80 per ton.

The cement industry is protected by the government and enjoys substantial profit margins. Moreover, the prices quoted include excise taxes of £S 15 per ton, from which public bodies might reasonably be exempt. But the basis of present prices Syria can hardly afford to make greater use of this superior roadbuilding material in meeting the specifications required for the growing commercial trucking.

Recently the possibility of constructing low-cost mix-in-place bituminous roads, with or without soil stabilization, has attracted much attention. The method has been used successfully in several countries of the Middle East, but to date it has not been tried in Syria, partly because the local asphalts of Kfarie and Djebel Bichri have not proven adaptable to the process but also because of some doubt that roads so constructed can withstand heavy truck traffic.

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[5] Actually not a bridge but a type of ford, useful where traffic density is moderate and the small or infrequent water flow does not justify a real bridge. The road dips down to streambed level and is strongly paved with reinforced concrete, providing a firm crossing even when inundated.

This is one of the best-known types of "low cost" roads.[6] The success 499 of the method depends largely upon the climate and the soil characteristics. A firm, sandy soil which does not require stabilization is best, for when a soil-stabilizing treatment must be applied the construction cost is no longer low. Costs are also affected by the necessity of hauling sand or stone long distances. Syrian conditions in general are less favorable to the method than might be expected, and in the extreme northeast are definitely unsuitable.

The mission has studied carefully the question of using low-cost road-building methods in certain parts of Syria. Apart from the factors mentioned, on the main routes it is evident that the traffic wear is too great even for the stone-based macadam with 15 cm. of block, 12 cm. of gravel and three cm. of asphalt pre-mix topping. It must be noted also that in popular usage "low-cost roads" mean low in construction cost only, not necessarily in expense of maintenance. The costs of material, labor, haulage, etc., add to the costs of maintenance as well as road-building. Where provision of adequate maintenance is difficult, it is often better to invest in a better road initially.

Mix-in-place or similar methods may hold promise in raising the standards of the desert roads or *pistes* (tracks). The mission did not find these in as bad a condition as so often reported; it appears that many instances of mired vehicles result from careless driving rather than from unavoidable road hazards. Nevertheless, some improvement of these routes must eventually be considered. At the moment it might best be confined to proper signposting, construction of Irish bridges, and repairs in the very worst places. In view of the limitation on development funds, road-building efforts just now should be focused mainly upon the several projects of greater urgency than these.

C ROAD MAINTENANCE

Close to the capital city, the roads appear to be rather well maintained; 491 elsewhere the difference is at once noticeable. Toward the east many of the roads show evidence of neglect and some have been virtually ruined through lack of attention.

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[6] See: Landbouwwegen, Reports of a Congress of the Royal (Netherlands) Institute of Engineers, 1953; D. W. Lister, Bituminous Soil Stabilization for Road Foundations (Cairo), 1953; Low Cost Roads and Runways (Cairo), The Shell Company, 1947; Bituminous Products for Roads and Runways (supplement), The Shell Company, 1950; Stabilisation des Sols, Bulletin Intérieur Shell; Wet Sand Mix, Een voordelig procede voor de verharding van wegdekken enz. (Shell); etc.

Expenditures

Financial provisions for road maintenance in the regular budget (shown in Table 8) during 1948-54 have averaged £S 3.23 million per year, or about as much as the average allowance for new road construction. During 1954 the original provision of £S 3.8 million was increased by a supplementary appropriation of £S 2 million, because of extraordinarily heavy rainfall damage, bringing the 1948-54 average to £S 3.51 million. On the basis of 8,200 kilometers of all-weather roads, this represents a maintenance allowance of £S 428 per kilometer.

TABLE 8 Budgetary Provisions for Syrian Roadbuilding and Maintenance in Recent Years

(Thousand £S)

Year	For new construction	For maintenance[a]
1948	7,216	2,300
1949	5,718	3,200
1950	2,907	3,200
1951	875	3,100
1952	1,752	3,400
1953	1,780	3,600
1954	3,478	5,800[b]

[a] Includes £S 200,000 each year for maintenance and depreciation of trucks, rollers and asphalting equipment.

[b] Includes a supplementary appropriation of £S 2 million during the year.

While this compares not unfavorably with that of some other countries[7] in similiar stages of development, only the increased 1954 figure approximates the needs of Syrian roads. The present 2,600 kilometers of asphalted road require, in addition to ordinary upkeep, a new three cm. covering of pre-mix every five years, at an estimated £S 10,000 per kilometer. Including this in a total maintenance estimate of £S 2,260 per kilometer per year for the asphalted roads, and allowing £S 500 per kilometer for the 491 macadamized routes and lesser amounts for others, the annual road maintenance budget should actually be around £S 6 million to £S 7 million.

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[7] Some comparative annual expenditures per kilometer for maintenance, expressed in Syrian currency, are: Iran, £S 250–440; Egypt, £S 200–400; Surinam, £S 600; French West Africa, about £S 420.

This raises the question whether Syria should consider new road investment if existing ones cannot be properly maintained. For every kilometer of new construction the annual burden of upkeep increases. But current deficiencies in road maintenance are not simply a matter of money; the present annual expenditures are sufficient to keep the roads in far better condition than they are. The causes of neglect include several other factors.

Personnel

Some earlier studies[8] have referred to seasonal labor shortages in road 491
maintenance. On this there are differences of opinion. In general, local 464
authorities do not find difficulty on this score, although without question there are shortages of supervisory personnel in the middle rank and foreman grades. A more serious situation is evident at the engineering level, where a wider use of foreign consulting firms and contractors would be helpful. For the whole range of public works, including roads, the government has available about 50 qualified engineers. The detailed knowledge and skill of intensive specialization is difficult to achieve under these circumstances and the mission was therefore not surprised to observe occasional use of overheated asphalt, or of too chalky a sand in mending mixtures. The effectiveness of the small corps of engineers is further reduced by the inordinate burden of paper work and administrative detail, if not by an actual preference of many for office work at the expense of practical field supervision.

Organization

Road maintenance, as a responsibility of the Secretary-General of the 491
Ministry of Public Works, must compete for attention with all other types 453
of public work activities and often fares poorly. This organizational problem may be partially responsible for a certain maldistribution of maintenance funds among the various districts, which often leaves a number of

[8] E.g., Sir Alexander Gibb & Partners, *The Economic Development of Syria*, 1947.

491 653 districts without the resources necessary for the most ordinary upkeep.

A wider use of road gangs would achieve far better maintenance, for the same expenditure, than is possible with the prevailing "one-man" system. A team concentrating upon a section at a time can often effect repairs which one man alone cannot do at all; gangs also permit closer technical supervision and more efficient use of equipment—valuable considerations when the supply of both is limited.

Road Maintenance Equipment

491 406 The country as a whole has far too little road-building and maintenance machinery for effective work. Mechanization must of course be introduced gradually where so much of the work is now done by hand. The present stock of equipment cannot meet even current needs. Half the mixers in the Damascus area are unusable, for example. There are no graders or bulldozers for maintenance purposes, although at least ten are needed for the tracks alone.

It is not enough to expect that construction machinery will be assigned to maintenance afterward; much of it will be worn out on the contemplated road-building program. Maintenance machinery should be bought separately. For one or more stone-crushing plants, the necessary bulldozers and graders, new rollers and other equipment needed currently, the mission foresees an expenditure of £S 1 million in the first five-year period and twice this amount in the second five years.

494 D LEGISLATION ON THE USE OF ROADS

Traffic Laws

Syria enacted a modern, comprehensive traffic code in 1953, which contains the usual detailed regulations on vehicle dimensions, maximum wheel loading, weight limits for certain types of roads and bridges, and similiar provisions for protection of the roads. It also provides for periodic inspection of vehicles for mechanical fitness. Rules of the road for safe and courteous driving are prescribed, as well as the knowledge required for obtaining a driver's permit.

The code is essentially a good one, and it is regrettable that most of its provisions are ineffective because of poor enforcement. Apart from the danger to human life, unless better measures are taken to enforce the regulations Syria faces a heavy loss of investment in road construction and maintenance. Besides establishment of a number of portable weighing stations, penalties should be imposed against unnecessary driving on the side of the road, which damages the edges, shoulders and adjacent crop land. Farmers should be severely penalized for plowing on the road right-of-way. Heavy traffic should be barred from certain roads and tracks during and just after heavy rains when the ground is soft.

Public Transport

Motor vehicles rendering services for public hire, buses, taxis and certain trucks, are subject to special regulation.

Until 1953, the individual bus owner could operate when, where and under such conditions as he wished. The new law[8] limits his operations to a duly franchised route and permits the government to control the number of buses on a given route, with the aim of preventing uneconomic congestion on popular routes and shortage on others. New bus owners are entitled to be licensed for those routes whose quota is not filled. In this respect the law presupposes a better statistical knowledge of the traffic demand than the government has. There are other valuable provisions, however, and already the legislation has introduced greater cleanliness, uniform rates, and responsibility of the carrier for liability insurance.

Trucks owned and operated by merchants, industrial concerns, farmers and others for the hauling of their own goods are classified as private vehicles. The number of these is not restricted and is increasing rapidly. There were 1,820 licensed private trucks in 1953, compared with 1,556 the year before and only 667 in 1948.

Special regulation of public trucks (those licensed to engage in the public transport business for hire) was introduced during the French mandate to protect the railways from excessive competition. The number of public trucks was limited and, in 1935, the sacrifice of two or more trucks was required as a condition for obtaining a license for a new one. Elsewhere we have mentioned more recent provisions for protection of the railway which prohibit carriage by road of certain classes of goods.

The principle of restricting the total number of public trucks has persisted, although the outmoded original justification has been replaced. The present purpose is to prevent excessive competition among the truckers themselves. Possibly it may be helpful to regulate the number of trucks in this way, if only to avoid an overinvestment in them by the public. The matter is debatable. There is at least a basic conflict of purpose if on the one hand the government seeks to lower existing highway freight rates, and on the other restricts competition specifically to prevent them from falling. Again, for the government to adjust the supply of trucks nicely to the demand requires statistical data which is certainly not now available.

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[8] Legislative Decree No. 122, October 5, 1953.

The system is open to abuse, whether or not it occurs. In any event the cost of licensing a new truck is greatly increased, for the owner must first purchase from another the license of an old truck to be decommissioned. For this freely negotiable right he may have to pay £S 10,000 or more—a price which in itself suggests that rigid restriction is not entirely in the best public interest.

Since 1953 these restrictions have not applied to tank trucks, any number of which may be licensed upon payment of a fee of £S 1,500 per vehicle. The mission suggests that a similar arrangement for other types of trucks would have a restraining influence, while at the same time adding appreciably to government revenues.

International Truck Transport

Reference has been made to the added costs of transport of Syrian goods, particularly on certain seaward routes,[10] occasioned by one or more border crossings.

This problem cannot be viewed as a difficulty unique to Syria, but must be recognized as an inconvenience which raises transport costs for each of the several countries of the region. One study in 1952 reported that it took a truckload of merchandise seven days to travel the 975 kilometers from Beirut to Teheran. The trip was found to involve six sets of customs formalities and documents, loading and reloading the goods onto four different trucks, and four successive drivers—a Lebanese, a Syrian, an Iraqi and an Iranian. Under these circumstances freight rates are unavoidably high, in addition to the breakage and loss occasioned by repeated handling.

Such a self-imposed handicap can be removed only by supplanting the present narrow protective regulations of the individual countries by reciprocal concessions for mutual economic advantage.

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[10] For example, from Damascus to Beirut or from Homs to Tripoli.

III PORTS

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A MEDITERRANEAN OUTLETS.

The east coast of the Mediterranean is not particularly favored with port sites. Most of the natural bays lie open toward the west and provide poor shelter without artificial breakwaters. There is also a high submarine shelf, comparatively unbroken by estuaries, so that along much of the Syrian-Lebanese coast the shallow waters prevent large ships from anchoring closer than several miles offshore. To add to the difficulties, on the landward side the mountain ranges parallel to the coast afford very few easy routes to the interior, and these generally over fairly high passes.

Conditions are somewhat better to the south, where the Palestine ports of Haifa and Jaffa (Tel Aviv) have been established. But for that length of coast more readily accessible to Syria natural port locations are scarce, and only a few deserve mention here. Even fewer are in Syrian territory, for although western Syria extends over some five degrees of latitude from north to south, its actual seacoast is confined to about 1½ degrees between Turkey and Lebanon.

At the extreme north Syrian goods can reach the Turkish port of Iskenderun, which has been considerably improved since 1921 and is growing in importance. This is connected by road to Aleppo and is also served by the continuation of the Northern Railway. Another Turkish port accessible by road is the once-important Antioch on the river Orontes; in recent times the silting of the river has destroyed its value for shipping.

Below the Turkish border is Syria's own port of Latakia, on which national development efforts are now concentrated and about which more will be said. Farther southward are the Syrian coastal towns of Djeble, Banias and Tartous, all three usable to some extent as ports. Djeble has been put forward at times as a possible future national port, but is of no significance at present. Banias is economically important as the terminus of the Iraq Petroleum Company pipeline, but for other commodities is rather inconveniently situated. Tartous is best known as a fishing port, and is occasionally visited by sailing ships and coasters.

The three Lebanese ports of Tripoli, Beirut and Sidon must be included in the list, although only the first two are important to Syria today. Sidon is chiefly of historic interest, although just south of it tankers now load petroleum from the Trans-Arabian pipeline.

Tripoli, with both rail and road connections to Homs and beyond, handles certain cargo from nearby regions of Syria, including raw sugar imports for the Homs refinery. A free zone was established in 1952. However, the depth of water is only two meters at quayside and six along the jetty. This limits the usefulness of the port, as larger vessels must anchor in the roadstead at least a mile offshore.

Of the ports mentioned, the most important of all in recent times has been Beirut. Historically the outlet for much of the caravan trade, its modern development dates from a concession granted in 1857 for exploitation of a Beirut-Damascus road, and subsequently transferred to the Compagnie Ottomane du Port, des Quais et Entrepots de Beyrouth (a later outgrowth of which was the DHP Railway). By 1924 the company had installed modern port facilities and had obtained a protective monopoly for the construction of all ports along the Syrian coast.

The port introduced free warehousing in 1923 and in 1934 created a free zone. Partially inspired by the competitive development of the port of Haifa, a considerable extension of facilities was undertaken during 1934-38. The port area was enlarged to 19 hectares, with 1,420 meters of quays of which 415 meters offered deep water. Other works were extended to include 12,000 square meters of sheds, 3,000 cubic meters of refrigerated storage and 17,000 square meters of warehouse space.

As far as Syria is concerned, the port of Beirut is convenient to Damascus and the southern region and will probably continue to serve this area to a great extent. It is also the rail connection for Jordanian cargo passing through Syria. It seems probable that the Latakia port will draw more of its cargo volume from the new productive areas than from existing ports, and that the effect upon Beirut will be less than commonly supposed.

B THE NATIONAL PORT OF LATAKIA

Early Background

Latakia, until recently a modest coastal town of 35,000 inhabitants, has long been a fishing port. It has a small shallow natural harbor suitable for light craft, although it suffers heavy winds from January to March. There are some quays and sheds, but the depth of water alongside the quays range from 0.70 to five meters, averaging about two, and the depth of the harbor entrance is only six to seven meters. The larger ships must anchor in the roadstead (depth, five to six fathoms) and be served by lighters. 50¢

Although at various times in the past steps were initiated to improve the port facilities at Latakia, it was not until 1950 that the government decided definitely to proceed with the development of a modern national port. In the mission's opinion the decision was reasonable and realistic, despite the various theoretical arguments in favor of other courses. At all events, the course being chosen, the mission has viewed the present development problem as simply one of integrating Latakia most effectively into the national transport pattern.

New Construction

The new port is designed to handle one million tons of cargo per year, about double the 1953 volume, but is calculated to show a satisfactory investment return at slightly above 800,000 tons. This volume was actually reached in 1954, before completion of the port construction. Recently the dispatch of the lighter service itself has improved considerably and this, together with the growing volume of regular cargo, has recently made it possible for international shipping companies to remove the former Latakia port surcharge of $9.25 per ton.

The mission has recommended construction of a grain silo, not provided for in the plans. A silo capacity of about 20,000-40,000 tons, equipped for mechanized delivery, will be required to regularize the harvest flow of export cereals when combined with the inland storage, cleaning and grading facilities discussed in the Main Report.

Promotion and Regulation

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A number of artificial measures have been invoked by the government as part of its effort to encourage the use of Latakia. A 1953 decree, for example, prohibited the importation of brown sugar, cement, asphalt, wood or iron via ports other than Latakia. There are also provisions with regard to exports. Since July 1952, exports of Syria's most important agricultural products are not allowed to use ports other than Latakia. The mission recognizes that such measures can serve a purpose at times, but they also can have serious drawbacks and are seldom the most desirable

654 504 means of promotion. Indeed, in the first example given it was necessary to exempt certain materials for southern public works, sugar for the Homs refinery (by special license) and various other large imports, so that much of the remaining cargo affected by the decree would have entered through Latakia in any event. It is questionable whether the actual benefit to Latakia is enough to offset the domestic and international resentment engendered.

Favorable adjustment of the various port charges, such as those for anchorage, mooring, cargo handling and storage, offers a more satisfactory means of promotion. In these the Syrian government has already shown a flexible policy, readjusting the rate schedule from time to time; we feel that this policy should be continued. Inducements of this kind, together with constantly improving service to shippers, will in general meet the competition of other ports with greater benefit to the Syrian economy than negative or restrictive measures.

509 IV CIVIL AVIATION

In a period of a few years Syria has made appreciable progress in the development of her civil aviation. Wisely, at this early stage, she has concentrated on the most-needed domestic services and the educational steps to popularize air transport, while at the same time providing suitable airport facilities to insure good connection with international lines. Domestic air mail service was inaugurated in April 1954.

508 *International Services*

By the end of 1953 nine international airlines provided Syria with direct service to all parts of the world. These call primarily at Damascus, although the Class C airport at Aleppo is used internationally to some extent.

The Damascus airport is situated only 10 kilometers southwest of the center of the city on an excellent road, at an altitude of 715 meters. It has a main runway of 2,550 meters and a cross-wind runway of 1,000 meters, both paved. Runways, taxiways and aprons will take aircraft of up to 50 tons. Equipment includes full lighting to ICAO specifications,

a high-power non-directional radio beacon, VHF direction finder for bad 508
weather, and its own 150 KW diesel power generating plant. Radio communication is maintained with Aleppo, Amsterdam, Athens, Baghdad, Basra, Beirut, Cairo, Istánbul, Djeddah, Jerusalem, Karachi, Nicosia, Paris, Rome and Teheran.

Both in the interest of international service and for the development of qualified domestic personnel the Syrian government has made good use of international technical assistance. Since 1953 it has had a team of ICAO experts in the country to train Syrian staff for the various ground services. In addition the government has sent a number of young Syrians overseas on fellowships to study aeronautical engineering, radio, air navigation, meteorology and aviation legislation.

Syrian Airways

Syrian Airways operates DC-3 flights between Damascus, Aleppo, 509
Latakia, Kamichliye, Deir ez Zor and Palmyra, as well as Beirut.

At present no attempt is made to operate on an economic basis. Passenger rates range between £S 0.07 and £S 0.18 per kilometer. Freight is carried for as little as £S 0.67 per ton-kilometer on certain routes (against an estimated average cost of at least £S 1.60 and probably much more). Deficits are met by the government, while revenue may be used by the line for development purposes. The objective at this time is mainly to promote air transport by all available means. Landing fees are kept low, the tax on aviation gasoline is only 18 piasters per 100 liters, and Syria imposes no income tax on airline operations.

As accounts are now kept the actual expenditures for civil aviation, and for Syrian Airways in particular, are not easily separated from the national defense budget. The mission feels that the time has come to set up an independent accounting system for Syrian Airways, to enable the government to measure its progress against costs from year to year. Only in this way can the domestic line develop eventually into an economically sound business. Undoubtedly government financial support will be needed for some time, but the government must be in a position to evaluate its effectiveness.

For extensions and replacements it is very likely that more DC-3 airplanes can be acquired at favorable prices. Although this type is no longer

509 built, many still in service are being retired by larger airlines whose increased traffic requires greater unit capacity. The mission recommends allocating possibly £S 600,000 to be used for this purpose over the next five years.

365 MUNICIPAL TRANSPORT

Both Aleppo and Damascus are served by city tram and bus systems. As in many other parts of the world, the buses are gradually replacing the tramways.

Aleppo

The tramway system of Aleppo was established in 1929 by a French company under a monopoly concession to provide the city with public transport. In 1951 the company was nationalized, continuing operations under the same concession. There was no bus service until 1952, when it was launched by the tramway company itself under a broadened interpretation of the original monopoly.

Both forms of transport are now operated at a small profit. While tramway development is static, new buses are being financed out of reserves set aside earlier for renewals on the tramway system. A gradual replacement will undoubtedly take place until the tramway system finally becomes uneconomical, but no immediate need to accelerate the process or to alter the policy is evident.

Damascus

Although older (1907) the Damascus tramway system has a similar history. Started by a Belgian company, it too was nationalized in 1951. In this case, however, the growth of bus competition has taken a different course.

In 1946 the tramways introduced three buses which they operated experimentally for about eight months. The fare was set at 15 piasters, but private buses made their appearance also, with a 10-piaster fare, and their competition caused the tramways' experiment to show an operating loss. Perhaps because of this, the tramway company failed to obtain a 365 broadening of its monopoly concession to include buses.

Without legislative restraint, the private bus business continued to grow in the hands of many individual owner-operators. There are now about 120 private buses, and their operators have combined into an association for the sake of uniform rates, pooled revenues and operating economies. Users apparently prefer the buses to the trams, for despite extremely low tram fares the buses have absorbed most of the business. Today, in contrast to 35,000-45,000 daily tram passengers, the private buses carry 100,000-200,000. The tramway operates at a considerable loss.

Seeking a way out of this dilemma, the nationalized tramway company has proposed that it buy up the buses at a cost of around £S 2 million, investing another £S 2 million in a gradual program of replacement with new buses. This idea has not met with favor among the bus owners, who see no public benefit in shifting from a successful and satisfactory private exploitation to a municipal operation.

The mission feels that such a shift is not justified economically, and that there is no need to use public funds for this purpose. Originally the tramways were installed as consumers of electric power generated by the same company. Under present local conditions the growing demand for electricity for other uses suggests that the simplest course is for the outmoded tramway, with its high overhead costs, to retire from the picture gradually in favor of the more efficient bus system already in operation.

VI TELECOMMUNICATIONS

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Syrian telephone and telegraph facilities have expanded rapidly in recent years, under the stimulus of an exceptionally clear and coordinated program of development. Investment in new and improved installations, including automatic dial system, has totalled £S 30,861,223 since 1946, mainly provided through interest-free loans from the government.

An even more impressive fact is that the operations are self-supporting. Telecommunications revenue has exceeded operating expense by an average amount of about £S 700,000 per year since 1949. In 1953 the total revenue was £S 10,944,684 against expenses of £S 9,573,585, leaving a record surplus of £S 1,371,099. Officials believe that with more efficient

206 operation of the remote offices and certain other economies this surplus of revenue over expense might be increased by as much as £S 3 million.

Statistically the growth and extent of the system may be seen from Table 9. Direct international telephone connections are now available to Rome, Ankara, Amman, Lebanon and Iraq, while telegraph circuits communicate directly with these as well as New York, London, Egypt, Arabia and Yemen. Radiotelephone is used to a large extent on exterior routes, while most of the internal messages are carried on pole-and-wire land circuits.

TABLE 9 Development of Syrian Telecommunications

	1949	1950	1951	1952	1953
Telephone offices	100	110	116	123	132
Telephone subscribers	9,000	14,000	15,410	20,568	21,218
Telegraph offices	62	61	62	64	65
Kilometers of poles	9,500	12,100	13,200	14,900	15,200
Kilometers of wire circuits	11,650	13,200	15,706	36,200	39,620
No. of circuits	161	173	227	337	379

207 Until recently the system also assumed responsibility for radio broadcasting. This has now become a separate service. With payment of £S 6 million the single transmitter was transferred to the new operating authority, but it is still made available for the use of the telecommunications system during six hours per day.

ANNEX I

NOTES ON SETTLEMENTS AND SOCIAL SERVICES

1 INTRODUCTION

Syria's 3.65 million people dwell in an estimated 8,265 settlements, of 361
which about 61% are towns and villages and the rest farms. Only Damas- 162
cus, Aleppo, Homs, Hama, Deir ez Zor and Latakia can be said to be preponderantly urban; the remaining communities have fairly evenly balanced urban and rural characteristics or else are clearly agricultural. About 23% of Syria's population lives in Damascus and Aleppo, 17% in 21 other cities of more than 10,000 inhabitants, 6% in 31 mixed settlements and over 50% in agricultural settlements. A little less than 3% is nomadic.

But the character of Syria's settlements is changing and the picture presented above will probably not be accurate for long. People of the mountain regions are slowly moving down to the plains. Both urban and rural settlements are being established in areas newly opened to cultivation, such as the Jezireh, the Ghab and the Roudj. The achievement of political independence started a trend toward urbanization, stimulated by construction of new roads and development of motorized transport.

Despite a considerable postwar building boom, there are probably 362
fewer buildings in relation to the population in Syria than in most other countries. Although the exact number of dwelling units is not known, it probably does not exceed 350,000 or approximately one for every 10 inhabitants. In recent years new construction has been at a high rate. In 1953, for example, the number of housing units probably increased by about 5.15%. While this is substantially in excess of the normal increase in the population, account should be taken of the fact that the newer dwelling units probably do not house on the average more than six people. On this basis, only about 8% of the new construction, or some 1,460 units, were available for replacement of existing housing. In the postwar period the demand for housing has been stimulated by the rise in population, the wartime building lag, the growth of the foreign community, the return of expatriate Syrians, changes in the geographical distribution of population and the tendency of patriarchal families to break up into simple

362 families requiring one dwelling each. While the need for a high and even higher rate of construction in the future is undeniable, it is doubtful that the factors which have operated to create an effective demand for housing will altogether be as effective in the future. Some decline in building over the coming years may well take place.

365 361 Community services have not kept pace with construction. Damascus and Aleppo have been most nearly provided with the essential streets, water supply and sewerage facilities, but the medium-sized and the small communities are very badly serviced. Except for water supply, this is not yet a problem for the small settlements, but it is serious for the medium-sized centers with their motorized transport and denser populations. The social services—education, public health, social welfare and community development—are likewise not yet adequately developed in Syria, but the country is commendably aware of the need and in the field of education, at least, has increased its expenditures impressively in the last few years. A few of the larger municipalities take care of their community services and have undertaken town-planning, but the central government, through the Ministry of Public Works, merely serves as technical advisor to the municipalities. There is no central government department with responsibility for housing. And while there are ministries for education and public health, no government department is responsible for social welfare or community development programs and no such programs exist. The administrative organizations in these fields clearly need strengthening.

Investment in Settlements

657 361 Over 60% of Syria's total annual investment is estimated to go into settlements, for housing, community and social services, and other purposes. During 1949-53 this type of investment averaged £S 138 million annually, of which £S 15 million (almost 11%) was from public funds and £S 123 million (89%) was private investment. On the basis of a 3.65 million population the annual investment in this sector was £S 39.4 per capita, of which £S 35.1 represents private funds.

[362] Perhaps as much as 80% of the private investment and about 72% of the total investment in settlements goes into housing; the balance is divided between industrial and commercial buildings, in that order. Private building activity reached an all-time high in 1953.

Of public investment in settlements, 80% is municipal and only 20%

governmental, representing 8.7% and 2.2%, respectively, of total investment in settlements. Municipal investment is directed to water supply,[1] roads, power plants and distribution networks and sewerage facilities, in that order; very little goes for housing. Government investment is primarily in buildings, chiefly for education and public health purposes. 657 361

The mission has assumed, in preparing its proposed program for settlements and social services, that the estimated 1954 population of 3.65 million will increase over the next five years at a rate of only 1.5% annually, rather than the 2% rate of recent years. If the program is to be properly adjusted to Syria's needs, however, a population census and an improvement in the collection and organization of vital statistics are urgently needed. Better public health conditions, economic development, opening of new areas and new lines of transport and communications, changes in social patterns—all will bring about major changes in size and distribution of the population over the next few years. Any policy developed for the settlements should be planned with an eye not only to the immediate future but also to the longer term economic, social and cultural development of the country. [161]

II EDUCATION

A PROGRESS TO DATE

871

For centuries, and especially during the years of foreign occupation, the only formal educational facilities were the Koranic schools, which concentrated on religious teaching. A decline in the number of these schools began about 150 years ago, and with it a gradual change in their curriculum; today about one-third of the time is devoted to religion. Meanwhile the number and significance of state primary schools has been increasing. In these, during the French occupation, the pattern of education was influenced by traditional French systems.

Since independence, Syria has started to develop its education at a faster rate and to give it a Syro-Arabic pattern. The effort of these few years and the success achieved is impressive. The budget of the Ministry of Education rose from almost £S 17 million in 1946 to £S 36.8 million in 1953, and its share of the total budget increased from 13.5% to 17.7% (in 1923 it had been only 9.1% and in 1931 9.8%). Between 1946 and 1953 the 871 658

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[1] Water supplies in Damascus and Aleppo, however, are financed by government funds.

871 458 number of primary, intermediate and secondary schools more than doubled.

871 The last five years alone have seen 939 new schools[2] established—an increase of 64% over the previously existing schools and an average increase of 11% per annum. Greatest gains occurred in the primary schools, the number of which rose by 81% or 11.4% per year. The number of children attending primary schools rose from about 150,000 in 1945-46 to 311,000 in 1952-53. Enrollment in intermediate and secondary schools increased even more rapidly—from 12,661 to 47,670. These advances, as well as those in the fields of technical education, teacher-training and higher education, are shown in Table 1.

Primary Education

872 In spite of the very large effort of the last few years, the remaining problems are enormous. According to the best available estimates, no more than 30-40% of the population is literate. It is customarily reckoned that, in a population similar in structure to Syria's, the number of children in every year of age from the 6th to the 12th is approximately equal to 2.6% of the total population. Six to eleven being the primary school age in Syria, there would be on this basis 546,000 children (6 × 2.6% = 15.6% of the 1952 population) of primary school age. Actually only 311,033, or presumably 56% of the eligibles, are in school.

The ratio is not the same for boys and girls. Assuming that the school-age population is divided equally between boys and girls—i.e., that there are 273,000 of each sex—then 18% of the boys and 68% of the girls do not attend school (the attendance figures are 222,779 and 88,254, respectively). Furthermore, many children do not remain in school long enough to receive a school certificate. The number who do finish has been increasing rapidly (from 624 in 1928, to 2,993 in 1940, 6,690 in 1946 and 19,850 in 1952) but it is still much lower than it should be.

There is one primary school for every 1,400 persons in Syria, with an average of 128 pupils and 3.6 teachers. Although only 13% of all primary schools are private schools, these have 18% of all primary school pupils and over 23% of the primary school teachers. The provinces of Damascus and Aleppo have the largest number of private schools; the Euphrates, Djebel Druze and Hauran have the fewest.

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[2] Not new buildings, but new schools, most of which occupy rented buildings.

TABLE 1 Recent Educational Progress in Syria

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	1945–46	1950–51	1952–53
Budget of Ministry of Education[a]	16,967[b]	24,266[c]	36,804[d]
Percent of total ordinary budget	13.5	14.6	17.7
Primary education			
Number of schools	1,080	1,794	2,399
Government	737	1,472	2,064
Private	343	322	335
Number of pupils	150,134	261,862	311,033
Government	99,703	206,343	249,399
Private	50,431	55,519	61,634
Number of graduates	6,690	18,104	26,342
Intermediate and secondary education			
Number of schools	73	135	181
Government	28	47	57
Private	45	88	124
Number of pupils	12,661	34,874	47,670
Government	8,276	22,269	27,144
Private	4,385	12,595	20,526
Number of intermediate school graduates	1,039	3,630	4,610
Number of secondary school graduates	1,155	1,243	1,700
Technical schools			
Number of schools	7	15	8[e]
Government	5	11	6
Private	2	4	2
Number of pupils	916	2,277	1,676
Government	881	2,105	1,567
Private	35	172	109
Teacher training			
Number of schools	4	5	8
Number of students	388	955	1,255
Higher education			
Number of students	1,058	2,470	2,598

[a] In thousands of Syrian pounds.
[b] 1946 budget.
[c] Two-thirds of the 18-months budget ended June 30, 1951.
[d] 1953 budget.
[e] Excluding agricultural schools.

Assuming an equal percentage of school age children in the different 872 districts, it appears that the regional distribution of primary schools is very unbalanced. Thus the average number of primary school pupils is 91

872 per 1,000 of the population, but in the Jezireh it is only 53 while in the Djebel Druze it is 152. The number of schools, which for Syria as a whole averages 0.7 per thousand people, varies regionally from 0.53 in Aleppo to 1.62 in the Djebel Druze. Similarly, while the country has an average of 2.56 teachers per thousand people, Latakia has only 1.94 and the Djebel Druze 4.01. It is apparent that, proportionately, in some areas three times as many are receiving primary education as in other areas.

For 1952-53, there were 8,541 primary school teachers in Syria. The pupil-teacher ratio was 36 for Syria as a whole; it ranged from 26 in the Jezireh to 41 in the Hauran and 43 in Homs.

Many factors have affected the distribution of educational facilities and the extent of school attendance. There is naturally a better provision for schools in the older settled areas than in the Jezireh, which has been developed only in the last decade and a half. School attendance is higher in the more densely populated districts than in areas, like the Jezireh, where the population is sparse and scattered and children may be deterred from attending by the distance from the nearest school. Thus, while the Jezireh has the fewest schools in relation to the population, it also has the highest proportion of teachers to school attendance. Economic pressure also keeps children out of school or causes them to leave before finishing, although in areas where the educational tradition is strong, as is apparently the case in the Djebel Druze, school attendance may be high despite a rather low standard of living.

Intermediate and Secondary Schools

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There is one secondary school for every 20,400 people, with an average of 276 pupils and 17 teachers per school. Records show that the number of children attending intermediate and secondary schools in 1952-53 was 47,670 out of an estimated 425,000 of school age. In other words, only 11.2% of school age children were attending secondary schools at all. Even if we include those receiving post-primary education in technical, agricultural and intermediate schools, the percentage does not rise above 12%. Thus less than one out of eight children in Syria receives any formal education beyond the primary grades.

Private schools represent 65% of all secondary schools, but they have only 40% of the secondary school pupils. Only in Latakia is the private school enrollment greater than that of governmental schools. On the other hand, 54% of all secondary school teachers teach in private schools, whose financial resources for this purpose are greater. 873

Again assuming an equal percentage of school age children in each district, it appears that the secondary schools, like the primary schools, are unequally distributed. At this educational level there is an average of 13.5 pupils per 1,000 of the population; but in the Jezireh, as might be expected, the ratio is only 2.7 in contrast to 18.1 in the Djebel Druze, 19.5 in Damascus and 22.3 in Hama. The number of secondary schools, averaging 0.049 per thousand people, ranges from as low as 0.016 in the Jezireh to 0.068 in Damascus and 0.085 in Hama. The average number of teachers is 0.8 per thousand people; in the Jezireh it is 0.2, in Hama 1.1 and in Damascus 1.6. In 1952-53 the secondary pupil-teacher ratio for the country was 16, but varied from 12.1 in the Jezireh and 12.4 in Damascus to 23.7 in the Djebel Druze. As in the case of primary schools, it is clear that the number of teachers cannot be the only limiting factor on attendance, for some areas most deficient in teachers have more children in school than those better supplied.

Vocational Education

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Syria has six vocational schools for boys, one for girls and one coeducational, as well as six schools for primary teacher training and two colleges for rural teachers, or a total of 16 schools giving some kind of professional education not of university level.[3] All except one in Deir ez Zor are on or west of the line Damascus-Aleppo; thus the entire eastern portion of Syria with a population of over half a million has just one professional school. Together these schools had 3,881 students in 1952-53,[4] a figure to be contrasted with the estimated 60,000 young people who enter the labor market each year.

The principal shortcoming of the present system of vocational education is the great gulf between the training and instruction given and that which is really required for skilled jobs. Unfortunately the Ministry and the schools maintain no liaison with the businessmen and industrialists for whom they are presumably turning out graduates. Nothing is done to place graduates in private employment; the Ministry of Education simply

[3] Agricultural schools above the primary level are discussed separately elsewhere; there are five of these.

[4] Including 1,670 in technical vocational schools and 2,202 in teacher-training.

874 asks government agencies about job openings. Although the schools are theoretically required to keep a record of their graduates and the positions they have secured, no effort is actually made to determine whether the education they have obtained has met the requirements.

Most of the students at vocational schools are those who, for one reason or another, did not qualify for the general secondary schools. In large part this is due to a tendency to look down on all manual training and to emphasize general education at the expense of technical education. The attitude is reflected in the traditionally low pay scale for manual workers. Although the efficiency of government and business would be greatly increased if there were more skilled typists and secretaries, the low wages and social standing discourage many from this line of work. Many boys apparently are unwilling to go in for vocational training for fear that it will lead them into a blind alley—that they will be denied opportunities to better themselves which they would have as possessors of a regular secondary school certificate. To open up a wider future for technical school graduates the Ministry of Education is now considering a program of five years of primary schooling and five of intermediate education, followed by two years of intensive technical studies, with the object of qualifying graduates either as foremen or as university engineering students.

875 In addition to equipment inadequacies, the calibre of the teaching staff leaves something to be desired. The technical school teachers are of two types: the practically-trained shop instructors who are basically experienced workers but who often lack fully rounded experience and pedagogic training, and the instructors who teach the general education subjects and the more academic and theoretical side of the vocational training. The monthly salary of the first group starts at £S 175-200 and after many years of service may reach a maximum of £S 350. The second group earns the equivalent of a secondary school teacher's salary, starting with £S 260 per month, with the possibility, after 30 years of service, of earning £S 500. It is generally recognized that these salaries are seldom sufficient to attract really good people, but this problem probably cannot be solved without a general revision of government salary scales.

In 1951 Syria invited UNESCO to send a four-man mission to study the problem of professional education. The creation of a department for vocational education in the Ministry of Education was one outgrowth of its recommendations, but much more remains to be done.

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Investment in Educational Facilities

For many centuries only a few school buildings or libraries were built in Syria, and those mainly for the Koranic schools. During the past years, particularly since the war, an effort has been made to provide enough school buildings, but only a small part of the requirements has been met. Although a special tax for school construction was levied by the government for the municipalities, it has not yielded enough for the purpose. Today most schools operate in rented structures which do not meet the physical requirements of a school building.

According to figures of the Ministry of Education, 416 school buildings were built between 1949 and 1954. These were mostly secondary schools, half of them in the Damascus and Aleppo mohafazats. The Ministry estimates the expenditure for these buildings at £S 8.28 million, averaging around £S 20,000 as the cost of each school of two to five classrooms.

The schools suffer from a lack of the appropriate type of furniture, equipment, books and other facilities such as projectors, slides, radios, etc. The fact that most of this equipment must be imported is largely responsible for its shortage, although the furniture and some other items can in fact be produced locally.

B THE SIX-YEAR PROGRAM IN EDUCATION

Our estimates of the cost of the education program are set out in Table 2.

The item for development of primary and secondary education assumes an average annual increase in attendance of 6%, the continuation of the present ratio between primary and secondary education, the same type of education, the same ratio of government to private schools, and no increase in teachers' salaries.

With respect to vocational training we have assumed an increase in attendance at existing and new schools from 1,676 in 1952-53 to 3,500 by 1960-61. This would necessitate a rise of £S 2.226 million in the operating expenditures of such schools over the six-year period. In addition, about £S 900,000 would be needed to cover the cost of a foreign expert (£S 50,000 a year) and of operating the first school to be used as a training center for teachers (£S 100,000 a year). For the operation of

TABLE 2 Proposed Six-Year Program for Education

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(*Thousand £S*)

Purpose of expenditure	Total
1. General program financed by the Ministry of Education—total budget covering primary and secondary education	220,200
2. Additional professional education—operation	2,226
3. Vocational education, foreign expert and training of teachers	900
4. Night schools	125
5. Fundamental education—regular program	99
6. Foreign expert and training program	400
7. Higher education and cultural institutions[a]	37,526
8. Total for operation	261,776
9. Construction of new schools	7,500
10. Equipment, etc.	2,500
11. Total government expenditure	271,776
12. Investment	10,000
13. Other expenses	261,776
14. Municipal expenditure for school buildings in addition to (9)	7,500
15. Total investment, public sector	17,500
16. Total program, public sector	269,276

[a] Excluding Department of Antiquities.

vocational night schools it is estimated that every student will cost £S 50 per year; the cost of this program is estimated at £S 5,000 for the first year, rising to £S 30,000 in the sixth year.

The cost of fundamental education has been reckoned at £S 3,000 per operating center annually. To this amount must be added the cost of a foreign expert and teacher-training, for which we have allowed £S 80,000 a year.

For higher education we have made provision for a modest increase in yearly allocations, pending development of future plans. A new type of all-purpose school building must be developed: one which will serve during the day for primary or secondary education, and in the evenings for professional and fundamental schools. We also propose that such buildings might be adapted to serve other community purposes as well.

If the school construction proceeds at the same rate as heretofore, and if the mission's recommendations respecting their construction, set forth in the Main Report, are adopted, five times more schoolrooms for primary

or secondary education can be built. An expenditure of £S 3 million a 658
year would permit construction of 500 classrooms a year or about 100 new 871
schools, without auditorium and other facilities which can be built later. At such a rate, the country's estimated future requirement of about 4,000 schools (assuming that there are already 1,000) would be fulfilled in about 30 years. Meanwhile a considerable number of schools will undoubtedly have to continue in rented buildings.

The opening of new schools will have to be carefully planned in the light of the geographic distribution of existing facilities, conditions of overcrowding, the demand for schooling as influenced by economic factors, the distance of school-age children from existing schools and the availability of teachers. Now that a considerable portion of school-age children are in fact going to school, the location of new schools must be given more thought in order to ensure that they will meet a real need.

Thought should be given to standardization of desks and equipment and for their manufacture in Syria. There are also future possibilities for local production of some other items now imported, such as slides, maps, etc.

Finally, we recommend a reorganization of the Ministry of Education. In addition to a branch of general services with sections for planning, building, inspection, etc., there may be merit in creating five other branches, to correspond to the five major aspects of the educational program: primary education, secondary education, vocational education, fundamental education and higher education.

III PUBLIC HEALTH

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Hospitals and Dispensaries

The country's 24 public and 37 private hospitals have, as of the end of 1954, a total of 4,094 beds. This means only 1.19 beds[8] for over 1,000 inhabitants, as compared with 5 per 1,000 in England, the U. S. and New Zealand or the 15 per 1,000 which some authorities consider optimum for a really healthy population. Only 1,880 of the beds, or 0.56 per 1,000 inhabitants, are in general public hospitals.

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[8] In this and subsequent comparisons the number of beds per 1,000 inhabitants has been calculated on the basis of the 1952 population.

744 Worse than the low ratio of beds to population is their distribution. 743 Syria is divided into 44 *qadas,* or administrative areas, the average population of which is 75,000. Twenty-eight of these have no hospitals, public or private, whereas others have as many as 4.35 beds per 1,000 inhabitants. The distribution of beds in general governmental hospitals alone is no better: 29 qadas have none at all, but in Damascus and the Hauran center the ratio is 1.67 beds per thousand inhabitants.

Some people, especially in the eastern parts of the country, are as much as 250 kilometers from the nearest hospital. Even by private automobile it would take them at least a day to reach it, and then there would be no assurance of a vacant bed. Among those who must rely on camels or donkeys, as in the rural areas, many people are at least five days' travel time from a hospital. Since a hospital is supposed to serve a population living no more than one hour away, as a practical matter a great many of the people may be said to have no access to a hospital. Thus in the two large provinces in northeastern Syria, the Jezireh and Euphrates, there is only one small public hospital at Hassetche and another at Deir ez Zor.

The inadequacy of the hospitals, especially the general ones for the most part government-owned, which serve the poorest people, is shown by the ratio between number of patients and the population of the provinces. The country-wide average for 1951 and 1952 was 8.8 patients per thousand inhabitants of each province but the proportion ranges from 18.3 for Damascus to 2.2 in the Euphrates. Recent figures for France and the United States indicate that 40-80 persons per thousand are cared for at hospitals.

Another significant factor in many of the hospitals is the small number of patients attended in relation to beds available. In the Euphrates province, for example, there were 6.8 patients per bed compared to 24.6 and 22.6 for the Damascus and Homs provinces, respectively, and a country-wide average of 15.5. If the Damascus bed-patient ratio were country-wide, the 1,880 beds in general government hospitals could serve 46,000 people annually instead of only about 29,000, thus achieving a 58% increase in service with no increase in beds. Where there is both a low ratio of hospital beds to population and a low ratio of patients to beds, as in the Euphrates province, this condition is presumably due not only to the fact that existing hospital facilities are inaccessible to most of the population, but perhaps also to the poor service provided by the hospitals.

Syria has 96 governmental dispensaries or about three per 100,000

inhabitants.[a] Here again there is unequal distribution, ranging from 5.1 744
per 100,000 in the Hauran area and 3.6 in Damascus down to 2.0 in the 743
Euphrates province. Present-day standards call for one rural hospital for every 20,000 inhabitants, yet here many areas which should, by that standard, have a hospital, lack even a dispensary.

The average number of visits at dispensaries is 202 for every thousand persons, varying from 372 in the Hauran and 363 in Damascus down to 60 in the Euphrates. Since the dispensaries operate for the most part in areas without doctors, the figures must be taken to include calls which in other circumstances would be made on private doctors. There are about 7,000 visits per year at each dispensary, or an average of 23 visits per working day.

Medical Staff

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In all, the country has 880 doctors including 76 foreigners. Thus there is one doctor for every 3,800 persons. In this respect Syria's standing compared with other countries is not strikingly low. The United States, Europe and the USSR have one doctor for every 1,200 persons; Latin America, South Africa, Australia, New Zealand and Japan have one for every 1,700. But Asia (excluding the USSR and Japan) and Africa (without South Africa) have only one doctor to 12,000 persons and Iraq has one per 7,000.

Yet while Syria may not be handicapped by an actual lack of doctors, their distribution over the country is as unbalanced as that of the hospital and dispensary facilities. There are some areas with populations of 25,000, without a single doctor. As for trained nurses, midwives and other auxiliary personnel, these are in fact scarcer than doctors and constitute a problem of major importance.

The mission's proposed program, as outlined in the Main Report, would 744
place greater stress on the prevention of disease than in the past.

It is difficult to estimate the possible cost of a full disease-prevention program; it might mean an expenditure of £S 2 per person per year or £S 7 million annually, not including the large expenditures for water supply, drainage, sewerage and other major works. Obviously a program of this magnitude cannot be recommended for Syria in the near future. A

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[a] In the provinces of Damascus and Homs three touring doctors provide the same type of services at the dispensaries.

944 more realistic minimum program would call for improvement of the water supply, vaccination against tuberculosis and anti-malaria measures.

The first step in assuring a supply of pure water at minimum cost is a survey of present and potential sources. Thereafter there should be measures for the purification of supplies, storage, transportation of pure water to the settlements, distribution to the settlements and to individual properties, and finally the provision of piped water to every building. But for many Syrian communities the construction of a network to bring water to every property is not the best way to begin, since it slows the rate at which water can be provided to new consumers. The program at first might better be confined to the survey and exploitation of new sources, storage and transportation to settlements, and distribution to key points in the settlements; only thereafter should the next steps be taken in the larger settlements.

Disease-carrying mosquitoes can be combatted either by eliminating their breeding places or by a continuous spraying program. By itself the first is too costly and would take many years, although we recommend elimination of breeding grounds in connection with the irrigation and drainage projects. By spraying, however, it has been demonstrated in many countries that the incidence of malaria can be reduced by more than 95% at a yearly cost of no more than $0.25 per capita. In Syria such a program may cost $0.35 or £S 1.25 per person protected, which means about £S 810,000 annually on the assumption that 650,000 persons must be protected. Greece has effected a saving of $1 million annually in quinine alone. An equally successful program in Syria would mean a very substantial annual saving and this would be but a fraction of the economic gains from the increased labor productivity through freedom from disease.

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Additional Hospital Facilities

Any ambitious hospital building program would overtax the financial resources of the country and the available medical and auxiliary staff. Even a program to build hospitals in areas now without them and to add beds to existing hospitals in such a way as to bring them up to the population-bed ratio of Damascus would cost about £S 24 million and probably result in acute operating difficulties. We have therefore suggested that only about 1,000 beds be added to meet the most urgent requirements. The suggested distribution—250 for the Jezireh, 300 for the Euphrates, 400 for the province of Aleppo, and 50 for Palmyra—should be considered tentative. 743 The new facilities should be so distributed as to make them accessible to the population which is in practice not now served by existing facilities. The location of new hospitals in the geographically extensive provinces of the Jezireh and Euphrates must be considered very carefully. Kamichliye should manifestly have a hospital, and other small hospitals might be located in both the eastern and western portions of the Jezireh. In the Euphrates province the needs of Raqqa and Abou Kemal should be considered. In the province of Aleppo a hospital will presumably be needed in Jisr ech Choghour, which will be the center of a rapidly developing region. In the location of all new hospitals the ability to provide staff must be a governing consideration.

Cost of the Six-Year Program 744

The mission's estimates of the cost of the various parts of the six-year public health program are shown in Table 3.

TABLE 3 Proposed Six-Year Program for Public Health, 1955-60

(*Thousand £S*)

Projects	Total	Annual average
Anti-malaria	2,750	460
Water supply	*	—
Dispensaries	350	58
Total for preventive medicine	3,100	518
Alteration of existing hospitals	1,000	167
1,000 more beds	7,000	1,165
Health centers	350	58
Total for curative medicine	8,350	1,390
Minor health facilities	300	50
TOTAL PROGRAM	11,750	1,960
Total investment	10,250	1,710
Operation of new program	1,500	250
General administrative and operating expenditures, including training	62,400	10,400
TOTAL OPERATION	63,900	10,650
TOTAL OF EXPENDITURES	74,150	12,360

* The amounts necessary for pure water supply are included in the expenditures for the over-all water supply program.

IV HOUSING

361 The housing program for the next few years should have three main objectives. First, the number of houses should be considerably increased. This can be accomplished most effectively, particularly in the rural areas, by making it easier for people to become landowners and thus providing them with an incentive to build and maintain their houses. Secondly, construction techniques must be improved and self-help must be encouraged, so that better housing can be achieved without expending much more on it than is spent today. In this connection, government advice and assistance in developing types of durable but cheap housing and in land purchases, distribution of materials and encouragement of community efforts is important. Also, through legislation or otherwise, provision must be made for the acquisition of land at non-speculative prices by the low-income groups; this is particularly important in urban areas. The third objective must be timely government planning, and to some extent even financing, of housing in areas which are developing rapidly and becoming more densely populated.

Although in the future the municipal and local authorities should assume a leading role in housing development, at the beginning the government will have to take the initiative. The mission proposes a six-year housing program costing about £S 28 million, including housing in the new rural settlements discussed elsewhere in this report. Of this the municipal contribution, for purchase of land and for slum clearance, would be only £S 8.5 million. The proposed expenditure is shown in Table 4.

The recommended census of houses and buildings should not be postponed until the next population census, but should be organized during 1955 and taken in 1956. The proposed experimental building station should be located where the characteristics of both a desert and an irrigated area can be found, perhaps in the eastern fringe of the irrigated zone of Homs. Its principal task should be to experiment with different types of materials and to develop for different localities dwellings which would be durable and cheap. Building codes should then be modified to permit the erection of such houses within city limits.

The urban housing program we have outlined in the Main Report envisages government financial assistance for municipalities (1) to meet urgent housing requirements stemming from a rapid growth in their

TABLE 4 Proposed Six-Year Housing Program

	(Thousand £S) Total
General proposals	
Census*	240
Experimentation	760
Technical assistance	250
Administration	250
Total	1,500
Development projects	
Roudj	1,920
Dry farming communities	1,056
Ghab	600
Urban centers	3,000
Latakia	3,000
Total	9,576
Socio-economic program*	
Buying land	10,000
Slum clearance	7,000
Total	17,000
Total program	28,076
Of which:	
Capital expenditures	13,836
Recurrent expenditures	5,740

* Figures for land purchase and slum clearance include 80% municipal contributions.

population, and (2) to start slum clearance projects for the most congested areas. With respect to the first we suggest that the municipalities concentrate on housing between a range of £S 1,000 to £S 4,000 per unit. The type of house built by the municipality should be only a nucleus which can be expanded by the owner himself. The nucleus dwelling and the lot should be sold to the occupier on easy terms. In slum clearance projects the primary aim of the municipality should be to provide building areas and utilities at reasonable cost. In addition, certain key building components such as windows, doors and roofing materials should be provided to those willing to construct houses with their own labor, and expert building advice should be furnished. It is, above all, important that building lots be reasonable in price and convenient to places of work. In Latakia, for example, it was found that, after land was expropriated and applications

362 invited for building lots, only one-fourth of the land was taken up because it was too expensive and too inaccessible.

We have given some attention to the possibility of establishing a mortgage bank to assist in financing private building in the cities. We believe that such an institution will ultimately be desirable and necessary, but, owing to limitations of funds, we have not recommended that one be established before 1961. Meanwhile, the project might well be studied. Any mortgage bank that might ultimately be created should be designed primarily to help finance low-cost housing, particularly since the construction of housing for the more well-to-do elements in the population has apparently not been significantly hampered by lack of funds.

The possibility of gradually abandoning existing rent controls should also be studied. The elimination of rent control on new building might be a suitable first step and might have the incidental advantage of discouraging the continuous influx of new people into the urban areas.

361 v COMMUNITY SERVICES

The mission's provision of an average annual investment of £S 14.3 million for community services must be regarded as extremely tentative. In the last analysis, no final program can be recommended until a thorough analysis of municipal finances is completed. At present, comprehensive data on municipal expenditures and anticipated financial resources are lacking. We suggest that a study of this subject be undertaken promptly, so that the magnitude of a program of municipal services can be determined in the light of the municipalities' own resources and the contribution which the central government can make to them either by loans or by grants.

Roads and Streets

363 The construction of roads and streets has been second in importance among municipal programs. Except in the large cities, paving is generally limited to a few central streets because of its cost.

Hereafter the construction and maintenance of all types of roads connecting settlements, including the portions passing through the settlements, should be the financial responsibility of the central government. Municipalities, freed of this burden on their budgets, should take care to spend their road funds on types of pavement suitable to the needs of the locality, 363 choosing those methods which make greatest use of local materials and hand labor and depend least on machinery and imported materials. Stone-paved roads, of which there are excellent examples in Syria, probably provide the answer for most of the settlements where stone is readily available, and the government should be able to provide asphalt to most communities. Many of the roads in villages, particularly those which do not carry motor vehicle traffic, could be improved through cooperative community endeavor, and this should be one of the objectives of the community development program we have recommended.

Electricity

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Electricity is of economic importance to those communities which depend upon it for productive power and not merely for light. The mission recognizes fully the significant developing influence which the availability of electric power can have upon a community. Useful though it is, however, we suggest that a major effort to provide electric power primarily for lighting be deferred until the more urgent problems of water supply and sewerage have received attention.

Landscaping

Syria's broad and nearly waterless steppes have led to cities and villages 361 virtually without trees, a situation to which the devastation of the first World War contributed greatly. Even cities like Damascus, lacking neither greenery nor water, have large areas which remain bare. The planting of trees, especially shade trees for the streets, should be a concern for all Syrian settlements. This, of course, calls for a study of the most suitable types of trees for the different regions, and the establishment of nurseries, as recommended in Chapter 3 of the Main Report.

Local committees should do the planting, once the problem of water supply has been met. Where streets are narrow, there is much to be said in favor of planting trees inside the house plots so that the inhabitants themselves will take care of them; the trees will then shade the streets without taking up needed road space. In recently planned areas where the streets may be unnecessarily wide, a strip on either side might be turned over to the people living on the street on condition that it be planted with

861 trees and not built upon. Possibly in this way the broad, deserted unpaved streets, swept by the winter winds and burning under the summer sun, can be transformed into long garden avenues without any heavy expenditure by the local authorities.

VI PUBLIC BUILDINGS

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Direction of Investment

Out of a total of about £S 25 million expended on public buildings between 1948 and 1954, £S 9 million was for public health structures while more than £S 7.5 million was invested in schools and a like sum on administrative buildings.[7]

The proportion spent for administrative buildings has been high and is attributable to the organizational needs of the newly independent country. We have assumed that the rate of construction of such buildings is likely to increase, but we suggest that no more than £S 750,000 be expended during 1955-56 while a critical survey of the most urgent requirements in this category is being prepared. In 1957 the expenditure may reach £S 1 million, rising to £S 2.5 million in 1960 and making a total of £S 8.5 million over the six years. The resulting average of £S 1.417 million would in fact be about 50% higher than the average of recent years.

The total expenditure for public buildings, including schools, public health buildings and other types, is likely to average £S 7 million annually, assuming that the municipalities and other authorities share the cost of schools. Compared with the effort of the past few years, which was at a level of £S 4.5 million a year, this would be an increase of about 60% to 70% per year.

Policy

In the Main Report the mission has recommended that in future the Ministry of Public Works be responsible for design and construction of all public buildings, relying on each government agency to specify and draw up its own special requirements. It may be necessary, especially at the beginning of the program, to engage a private firm of Syrian or foreign architects to design certain major projects independently or in collaboration with the Ministry of Public Works. A number of standard types of buildings should be developed and studied as a guide for future projects. For example, two or three tested types of classrooms should be available, suited to the differing climatic regions of Syria. 653

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[7] Including buildings for the judicial and security services.

Commercial Buildings

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With respect to commercial buildings, the government's problems include provision of town and village markets. For centuries these have been built on a traditional oriental design, with a network of covered passages on which the various shops open. Such construction has permitted market activity under conditions of severe heat or heavy rain, and has lent itself to the prevalence of small shops appropriate to the country's economic standards. Although this form of market is still the most common, new ones of the type are no longer being built. In some settlements of the Jezireh, in Kamichliye and Hassetche, the new *souks* borrow something from the old design, combining it with regular narrow streets covered with temporary roofing. Elsewhere markets are following the western pattern.

As part of the general development program the government might well finance a special study of the type of market that will most economically offer protected shopping, small-size shops, sanitary conditions and better ventilation. Thereafter municipalities should proceed to plan for their own requirements.

Transportation Structures

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Most buildings related to transportation services are the responsibility of the railways and port authorities, and provision has been made for them in the transport program. Yet one category of building usually neglected in planning is that serving bus and truck transportation, which is of greatest importance in a country like Syria with its many small settlements. What is needed is something equivalent to the caravanserai of earlier times—perhaps a combination of a big courtyard, a service garage, a storehouse and a small hostel. Here too, the government might undertake a study of an appropriate prototype, leaving construction to the municipalities and private business.

Miscellaneous Buildings

653 There are, of course, various other types of public and special-purpose [341] buildings with which the government is concerned. Among these are agricultural structures, workshops, museums, monuments and resthouses, to whatever extent they are not privately financed. The mission has made suitable allowances for these in the six-year program, under the appropriate headings elsewhere in this report.

[342] Although they are financed and constructed entirely by private endeavor, the religious buildings deserve special mention. This is a field in which Syria excels. Some of the mosques, minarets and churches, whether in large towns or small villages, are outstanding illustrations of the way in which architectural design and construction can be adapted to the needs of the people, their economic resources, and the materials and skills available locally.

657 VII COST OF PROPOSED SETTLEMENTS AND SOCIAL SERVICES PROGRAM

Table 5 summarizes the mission's proposed six-year program in the field of settlements and social services.

TABLE 5 Proposed Six-Year Program for Settlements and Social Services Financed by the Public Sector (*Thousand £S*)

Sector	Total	Annual average
Housing	28,076	4,679
Education	271,780	45,297
Public health	74,150	12,358
Social welfare	450	75
Community development	2,687	448
Buildings for other purposes	8,500	1,417
Community services	86,000	14,333
Planning—Administration	3,600	600
Total	475,243	79,207
Share of		
Central government	372,643	62,107
Municipalities	102,600	17,100

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[For recommendations by an International Bank Mission on a program of long-term development of Syrian resources and specific measures to be undertaken by the government, see category 116, pp. 27-209.]